

Railway Age

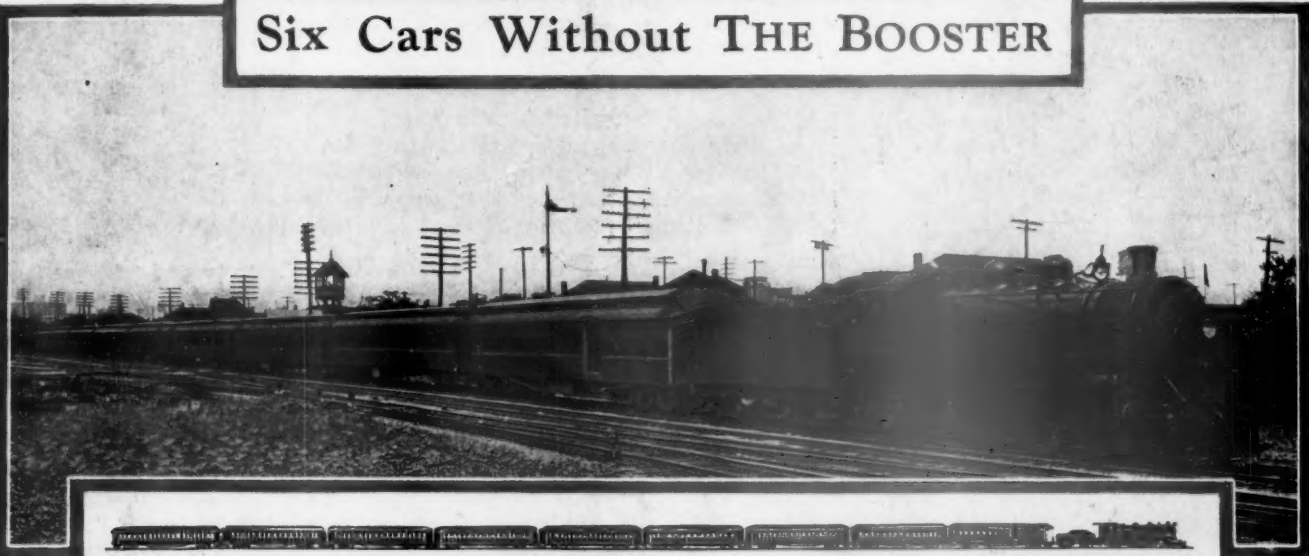
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SIXTY-SEVENTH YEAR

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Average stops, 20.

Running speed, 55 miles per hour.

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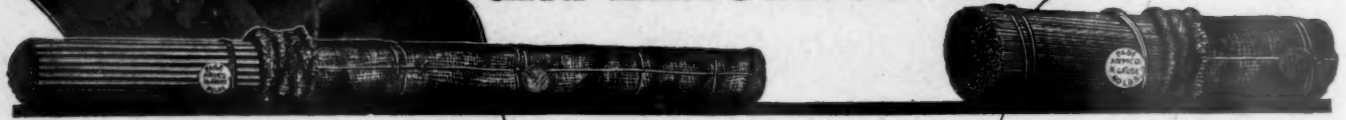
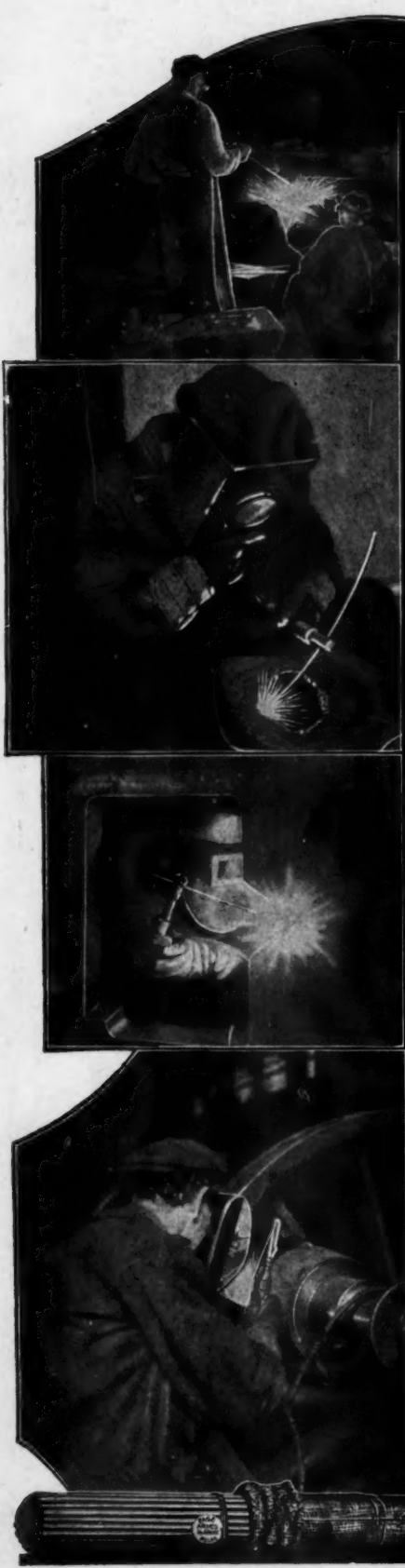
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EDITORIAL



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As an average for every 100 cars that are moving, loaded or empty, there are 119 being loaded, 119 being unloaded, 164

An Opportunity for Saving Cars

on repair tracks, and 680 standing in yards. The last figure deserves the careful attention of railway operating officers. Millions will be spent to get cars in condition during the next few months, but if the time in yards could be reduced one-fourth, it would be equivalent to putting all the bad-order cars back in service. Is there any reason why the average time cars spend in yards on each trip cannot be reduced from 11 days to 8 days?

Telegraph and telephone facilities have not kept pace with increases in track capacity and improvements in motive

Antique Communication Facilities

power on not a few railroads. Too often train delays due to lack of wires or modern telephone equipment are considered inevitable. As an illustration, on one important small road which is considered to be in good financial condition, as evidenced by extensive improvements in track and power, the communication system is inadequate. The superintendent of telegraph of this road has long desired to discard considerable of the old equipment, install a new telephone system and make many improvements in the telegraph but he has instructions to spend no money as long as the business can possibly be handled without extensive improvements or replacements. As a result of this policy this road will suffer serious delays from its obsolete communication system during the heavy business now coming. The regrettable feature is that the road may struggle through the traffic congestion blind to the small defect that is causing trouble. With the existing pole lines, new instruments, combined circuits, or new wires can be installed in a short period and at a small cost compared with the benefits. Considering this condition it might be well for other roads to check up the capacity of their communication facilities while there is yet time to correct conditions.

The railroads have for some time been supplementing the activities of their own repair shops by sending to the car

Equipment Repair Work

and locomotive builders large numbers of cars and locomotives for repair. The shopmen's strike has proved sufficiently serious to increase the volume of this outside repair work by the regular equipment builders. In addition it has also brought out a new development in the form of contracts for repair work which have been given by various railroads to concerns not previously experienced in car or locomotive repair work. Car repairs by concerns familiar with similar activity do not seem to present a difficult problem outside of that of so organizing the work as to keep down costs. Locomotive repairs, however, represent a problem not quite so simple of solution. The companies which are taking on this work are familiar in only a general way with locomotive repairs and it is naturally to be supposed that they may lack various

kinds of equipment. They are presumably, on the other hand, being asked to repair only the smaller locomotives and it is very likely that in each of the shops which has taken a contract there is a fair proportion of the forces familiar with railway work. One industrial plant offered a locomotive repair contract found that it had 80 former railroad employees, including an ex-master mechanic. If these companies show that they can come through with results, however, the new development will be one of great importance. It will help those railways taking advantage of it out of a rather difficult situation and not the least element in its importance is that it means that a large number of concerns will have been enlisted in helping the railways fight the railway shopmen's strike. Apparently about as far as one can go at this time, however, is to say that the new development will be watched with interest.

It is characteristic of native merchants in the Far East always to set the first price of an article high above the anticipated selling price. Tourists and

Haggling Over Material Prices Does Not Pay

traders are compelled, therefore, either to haggle with the natives and drive hard bargains, or else pay more than goods are worth. In cases where both buyer and seller understand that the first price is unduly high, this haggling represents a needless waste of time and energy, the final selling price being beaten down to what will give the seller a reasonable profit and what he could just as well have stated in the first place. Continual efforts of a buyer to obtain unjust price concessions are equally ineffective, as this characteristic becomes known and first quotations are made correspondingly high. Haggling over material prices has little place in modern business and it is to be regretted that certain railroads follow this method in purchasing supplies and equipment, of which machine tools may be taken as an example. Of two powerful roads in the same general territory, one requests bids and absolutely holds the machine tool manufacturers to whatever prices are first quoted. The other road requests bids, plays the manufacturers against each other and exerts undue pressure to obtain price reductions. Knowing this fact from past experience, the manufacturers in self-defense quote a higher price to the second road than that at which they expect to sell and realize a reasonable profit. The repetition of bids and negotiations for price reduction represents a total loss of time and energy which fails in its purpose of getting the machinery for the second road at a reduced price.

The article by A. S. Baldwin, which appeared in the *Railway Age* of September 2, affords an object lesson in the scientific

Design of Large Passenger Stations

study that should be given to the design of a large passenger station by those responsible for the development of plans for such projects. The intensive thought given this subject has resulted in the formulation of certain fundamental principles which, if we are to judge from the arrangement of some of the older stations, were not brought to light in the

development of the earlier designs. One fundamental principle that now seems axiomatic is that the route of the passengers through the station must be so obvious and direct that an individual of average intelligence should have no occasion to ask directions from the time that he enters the street door until he shows his ticket to the attendant at the track gate. All the facilities which must serve him should come to his attention through visual indication in his movement from the street to the train or in reverse order. This condition is best fulfilled if the train gates can be placed on the same level as all the other station facilities, a requirement that is not always easily met. For this reason the plan of the headhouse for the new Chicago Union station, which is described on another page of this issue, will be found of interest to students of station design, where the requirement has been fulfilled in spite of adverse street levels. The ultimate solution is exceedingly favorable, since it has been found possible to place even the tracks on the same level with the rest of the station.

The shop strike cost the railroads a lot of money. This will be reflected in the monthly balance sheets by increases in operating expenses. Although the shop forces have now been restored almost

Make Hay While the Sun Shines

to normal on most roads, through the agency of settlements or the perfection of new organizations, the strike will continue to exert an influence on operating expenses because of the large forces which must be employed to restore cars and locomotives to a normal condition of maintenance. This state of affairs will have an unfortunate influence on the operating ratio unless the expenses are curtailed in some other way and, as is usually the case under such circumstances, the maintenance of way department becomes the victim. This tendency is now being reflected on more than one road in the form of instructions to reduce the track forces and carry over bridge and building repair work. In the face of a capacity traffic that bids fair to continue well into the winter months and with the memory of the "holiday" seasons of 1917 and 1918 still well impressed on the minds of all railway officers, curtailment of maintenance of way at this time does not bear the stamp of good judgment. A stretch of soft track may tie up traffic just as effectively as a car with defective brake rigging, while the repair of a snow fence in a cut, some new switch ties on a ladder track or a better frost box on a water tank may exert as much influence on the car mileage as new flues in a locomotive boiler. This is no time to talk of retrenchment which affects operating facilities.

A western railway has been considering the elimination of a limiting grade on one of its heavy traffic lines for more than fifteen years. Survey after survey has been made without locating an entirely satisfactory line. Finally,

False Economy

after many of the officers had given up the search and the project had been dormant for three or four years, one of the engineers, who was not willing to admit that no satisfactory line existed, secured authority to undertake a new study, as a result of which he found an entirely new line which was such a marked improvement over any other line that had been located in first cost and in operating characteristics that its construction has been authorized. This illustrates the economy of liberality in engineering investigations. In general, the railways make more detailed investigations of proposed improvements than other industries, but there are numerous instances where roads have spent unnecessarily

large sums for work the cost of which a more detailed investigation would have reduced materially. The proportion which the cost of engineering investigation and design bears to the total expenditure is so small and the possibilities for economies in construction and in operation are so large that the fullest opportunity should be given to the engineering department to make adequate investigations before undertaking work of any magnitude. In fact, it would be economy for the management to insist that such investigations be made before approving plans and authorizing work and the efficiency of an engineering department should be determined by the character of its construction rather than by the size of its payroll.

It is trite to say that the number of cars required to move a given volume of traffic varies inversely with the amount loaded in each car. It is equally evident that a car shortage can be relieved or averted as directly by increasing the average load per car as by adding to the number of cars. The roads have

Increase the Car Loading

ordered a large amount of new equipment in recent months, some of which is now being delivered. This new equipment will not, however, be sufficient to enable the roads to cope successfully with the traffic now confronting them and they must of necessity resort to the heavier loading of cars if a serious shortage is to be avoided. The loading of cars is controlled by the shipper, subject only to certain minimum restrictions, but the roads can do much to increase the loading by enlisting the co-operation of their patrons, as was evidenced during the fall of 1920 when the average car load rose to 31.2 tons in December, as compared with 27.7 tons in the same month of the previous year. This improvement effected an increase in the carrying capacity of the railroads equivalent to the addition of more than a quarter of a million cars, with no added investment and with an increase in operating expenses far less than that in revenues. The roads are now facing a serious shortage of cars, particularly those designed for the transportation of coal, grain and fruit. It is therefore important that the measures which were instrumental in bringing about the increase in loading in 1920 be again restored. Much can be done in this direction through campaigns directed and co-ordinated by system officers. The real work, however, devolves upon the local traffic and operating men who come in contact with the patrons and who can appeal to them for their support in using the equipment which is available in a way which will enable it to serve the largest possible number of shippers. These local officers can do no more effective work for their roads under the present conditions than by bringing the necessity for car conservation to the attention of their patrons and showing them how they can co-operate.

A railroad system with considerable mileage is obliged to operate engine terminals and repair shops for maintaining locomotives and cars at widely separated points. Under such circumstances there is a strong tendency for each shop, large or small, to be conducted as an independent unit. Master mechanics and foremen are so busy with routine work and matters that must receive prompt attention that they often have far too little time even to sit down and think out plans for improved methods of doing work in their own shops, to say nothing of familiarizing themselves with the methods used at other shops. On how many systems are the foremen familiar with the practices followed at other points on the same road which are only a few hundred miles

Finding and Using the Best Shop Methods

apart? At practically every shop there are foremen who, being not only good mechanics but possessed of considerable ingenuity, have devised excellent methods and devices for doing certain jobs. These may be simpler and more economical than the usual methods followed at other points, but the railroad does not obtain the full benefit of the improvement as long as it is used at one point only. Much benefit could be obtained by the inauguration of a well-planned and systematic arrangement for foremen periodically visiting other shops, supplemented by an occasional meeting of all foremen holding similar positions on the system. Another method which also has been productive of considerable good and is followed frequently by many industrial concerns operating a number of plants at different points, is to employ some one, frequently in the capacity of a general superintendent, whose duty it is to divide his time between the various plants, investigating the methods followed, harmonizing practices and advising changes in layout and equipment to reduce operating costs and increase output. Such a person, freed from the details of routine administration, has an opportunity to familiarize himself with machine tools and ways of doing work which is not possible to a man directly responsible for shop operation.

The Transportation Situation— Cause and Effect

THE FARMERS, business men and other people of the United States who have been responsible for the policy of government regulation and government operation of railroads which has prevailed during the last fifteen years are now beginning to have an experience which should be as instructive to them as it is to be feared it will be expensive. The railways in the week ended September 16, the last date for which we have the figures, moved 945,919 carloads of freight. The largest business ever handled by them in their history was in 1920. The number of carloads of freight moved in the week mentioned was only $3\frac{1}{2}$ per cent less than in the corresponding week of 1920, and only 6 per cent less than the largest number of carloads ever moved in any week in history.

In spite of the remarkable transportation results being obtained under adverse conditions, the railroads for the week ended September 8 reported for the first time since 1920 a net shortage of cars. The orders for cars in some parts of the country which could not be filled exceeded by 15,000 the surplus cars in other parts of the country for which there were no orders. The net shortage was small. But on April 8, 1921, the railways had a car surplus of 507,427 cars, and even six months ago there was a car surplus of 260,000 cars.

It has taken only this short time for the increase in business activity to wipe out the large car surplus. The so-called "car shortage" is a symptom, not a disease itself. The disease is inadequacy of railway facilities of all kinds, and we have not yet felt its worst effects.

Business activity and production are increasing throughout the country. Every class of producers and shippers is clamoring for more transportation. Although the amount of coal transported has increased over 125 per cent since the coal strike was settled, the United States Geological Survey in its report for the week ended September 16 says: "Transportation is the dominant and limiting factor in soft coal supply."

One of the associations of manufacturers of lumber in a circular letter calls attention to the fact that the production of lumber has for some time been exceeding the amount that could be shipped, and that finally lack of transportation is forcing a curtailment of production. The National Asso-

ciation of Sand and Gravel Producers has been before the Interstate Commerce Commission to secure modification of its priority orders in favor of coal because these priority orders are seriously interfering with road building and other construction work. There are wide-spread complaints in the west because the railroads cannot move the grain as fast as the farmers desire to ship it. Governor Kendall of Iowa issued a statement on September 1 in which he said: "The car shortage in the state is a serious embarrassment to all industry and enterprise and it is one most difficult to remedy." He stated that the elevators are overflowing everywhere, and heavy losses will be sustained unless provision can be made for the immediate marketing of the grain. He advocates a transportation priority order in favor of cereals for two weeks. This condition exists in spite of the fact that thus far in 1922 the railways have moved more grain than ever before. The number of cars of grain moved this year to September 9 was 1,636,230. The previous high record was that of 1921, when up to the same date shipments of grain had been 1,571,538 cars.

Governor Kendall said the prolonged strike left the railways without adequate equipment. The situation would be somewhat better if the railways did not have an abnormal amount of equipment in bad order. But the shop employees' strike is by no means the principal cause of the present transportation situation. The principal cause of the present situation is that the general development of the railroads has very greatly declined within recent years while all the other industries of the country have continued to expand at a normal or more than normal rate. Consider the significance of the following figures some of which already have been published in these columns: The number of locomotives in service increased 17,725 in the seven years ending with 1907, only 10,579 in the next seven years, and only 1,912 in the seven years ending with 1921. The number of freight cars in service increased 626,000 in the seven years ending with 1907, only 349,000 in the seven years ending with 1914, and only 41,000 in the seven years ending with 1921. The increase in the number of locomotives for the seven years ending with 1907 was more than *nine times* as great as in the last seven years, and the increase in the number of freight cars was over *fifteen times* as great. If these reductions of the increase in the number of cars and locomotives had been the only reduction in railway development, the situation would not be so bad. But there has been a corresponding reduction of the increase in all railway facilities.

When the restrictive policy of government regulation began to be applied about 15 years ago those who opposed it predicted that this very reduction of railway expansion would be the result. They said the policy of reducing and limiting the net returns the railways could earn would drive new capital away from them, and that, of course, without sufficient new capital railroad expansion would decline. The advocates of the policy which has been followed ridiculed these predictions. The predictions have come true, and the nation is now entering on a new period of business revival with a transportation system utterly inadequate to the demands which will be made upon it if the demands increase as much in proportion as they have in every past period of business revival.

What is to be done, if anything, to remedy this situation? The natural way to stop an effect is to remove its cause. Since restrictive regulation has arrested the development of the railroads, it would seem that the logical thing to do would be to make regulation less restrictive. The net return earned by the railroads on their valuation in July, the first month after the recent reductions of wages and rates went into effect, was only four per cent. Business is increasing and the net return earned will increase if the railways are fairly regulated. If they earn an adequate net return they

will raise the needed new capital and provide the needed facilities.

In a large part of the country, however, there is being carried on a powerful agitation for legislation which would repeal all the constructive provisions of the Transportation Act and make the government's policy of regulation worse than it was before government control was adopted. In Governor Kendall's own state of Iowa the republicans have nominated for United States Senator a man who is making his campaign largely upon the ground that the valuation of the railways made by the Interstate Commerce Commission is from five to seven billion dollars too large and should be correspondingly reduced. In Wisconsin the republicans have renominated by a large majority Senator LaFollette, who has for years been the most persistent advocate of the very policy of regulation which is chiefly responsible for the fact that at the present time the farmers of Wisconsin, Iowa and other western states cannot get enough transportation to move their crops to market.

In other words, many of the farmers of those states are complaining bitterly of the losses they are suffering and the greater losses they fear because they cannot get enough transportation, and at the same time are supporting for election to Congress and to the Senate men who advocate policies which would cause railroad development to be even less in the next seven years than it has been in the last seven years.

The present transportation situation and the still worse situation which seems to be coming are due to policies the adoption of which has been caused by the very people who are now complaining most about the lack of transportation. The railways are doing, and will do their best to move all the traffic with the facilities available because, other things being equal, the more traffic they handle the more money they make. It is evident, however, that no matter how well they do, the country is going to suffer severely from lack of transportation. Perhaps the experience will teach the public that it has much to lose and nothing to gain by supporting a policy of regulation, the direct and necessary effect of which is to render the railways unable to handle the country's commerce.

What Will Be Done

With the Victory?

THE RESULT of the shop employees' strike has been a victory for the railways. In strikes, as in wars, it is often easier to win a victory than to use it wisely. Germany won a great victory in the Franco-Prussian war but did not use it wisely. Fifty years later Germany is much worse off than she probably would be if she had not triumphed so completely.

The outcome of the shop employees' strike is that on a large majority of railways the shop crafts' unions affiliated with the American Federation of Labor no longer exist. For some years the worst labor conditions on the railroads have prevailed in their shops. The rules and working conditions which the labor unions got adopted partly before and partly during government control had become an almost insuperable obstacle to efficiency and economy. The shop employees as a class had become, under bad leadership, the most radical and insubordinate class of employees. It seemed impossible to remedy this condition as long as the shop employees all belonged to national unions which successfully insisted upon only national negotiations of differences with the railway managements and upon nationally uniform wages and working conditions.

The result of the strike is to enable all the railways which have not settled with the unions to deal separately with their own men. This means with representatives of their own

men, since in no other practical way can large numbers of men deal with employers regarding matters of importance. The shop crafts' unions are quite certain to try to extend their organizations over these railways again. The managements will naturally try to prevent this. The most effective means of preventing it will be for the managements to convince the employees that it is contrary to their own interest to allow themselves to be drawn back into these unions. In order to do this it will be necessary for the managements, in concert with representatives of the employees, to establish means of co-operation between them which will work to the benefit of the employees as well as the railroads. The railways will naturally try to establish working conditions which will promote efficiency and economy of operation—which, in other words, will increase the output obtained per man and per machine. If, however, they are to attain this result without alienating their employees and causing the growth among them of a sentiment in favor of a renewed affiliation with the shop crafts' unions, it will be necessary, first, to bring about the establishment of relations which will give the employees a real opportunity to present their views and wishes to the management and participate in determining the conditions under which they shall work, and which, secondly, will convince the employees that they have more to gain by dealing directly with the management of their own railway than by dealing with it through the national unions.

The means adopted to bring about co-operation between the managements and the men and to secure increased efficiency will naturally differ on different railroads. It is to be hoped that many new means will be tried—local adjustment boards, shop committees, piece-work, and so on. If many new and varying methods are tried opportunity will be afforded to compare the results obtained for both the railways and the men. The outcome on most roads should be that controversies which may arise will be settled without going to the Labor Board, that the more hard-working and efficient men will be enabled to earn higher wages than the minimums fixed by the Labor Board, and that the railways at the same time will be enabled to get a given amount of work done at a lower total cost than they would have been able to if the strike had not occurred.

As paradoxical as the statement may sound, the outcome of the strike has also opened some new opportunities to the shop crafts' unions. They are still in existence as before on the railways which have made settlements with the strikers. The greatest fault of the shop crafts' unions, like so many other unions, has been that in efforts to further what they have regarded as the interest of their members they have pursued policies which directly militated against efficiency. They have proceeded on the false economic theory that there is only a limited amount of work to be done and that the more they restrict the amount done by each man the more they will increase the number of men that can and will be employed. The leaders of these unions can persist in following the old policies if they choose to. On the other hand, if they choose to, they can adopt a new policy of encouraging their members to do the most and best work they are capable of and to co-operate with the managements of the railways in increasing the efficiency and economy of operation.

The conditions will be such that, it would seem, the leaders of the unions would find it expedient to do this. With the shop crafts' unions representing the employees on some railways and not representing them on others, there will be opportunity to compare the results obtained for both the men and the railways where the unions are recognized and dealt with and where they are not recognized or dealt with. Persistence by the labor leaders in the policies for which they have stood in the past is almost certain to make the conclusions drawn from these comparisons unfavorable to labor unionism and its methods.

The outcome of the strike should have good effects on both the managements of the railways and the labor unions. It should stimulate the managements of the railways which have refused to settle with the unions to use every reasonable means to so promote the welfare of their employees as to make them satisfied and loyal to the companies. It should at the same time stimulate the shop crafts' unions to so deal with the railways which have made settlements with them as to convince their managements and the public that these railways did not make a mistake in so doing instead of fighting the strike to a finish. The strike has cost a great deal and the employees, the railways and the public will not cease to feel its effects for a long time to come. But if it results in causing both the railways and the labor unions to follow more enlightened policies in future it will be worth far more than it has or will cost.

Does It Pay?

WHAT IS THE VALUE of a well-balanced athletic program for employees on a railroad system? Can it be measured in terms of increased output or in other practical ways? These questions are suggested by the fact that at a time when various railway associations and railway clubs are cancelling and discontinuing meetings because of unrest and the congestion of traffic, the Pennsylvania Railroad has gone forward with its athletic or recreation program, which culminated in the great system field meet at Altoona last Saturday. Not only did this mean relieving many workers over the system to take part in the events—including the shutting down for the day of the great Altoona shops—but many special trains were required to carry the employees to Altoona from all parts of the system.

The crowd—possibly 35,000 were in the grandstands on Saturday afternoon—included the workers and their families, from the president and some of the directors down to office girls and boys, apprentices and laborers; and they were apparently welded together in a complete and happy unit. Nowhere was this better evidenced than in the way in which President Rea, backed up by many of his official family, left the grandstand for the field and personally gave out the medals and trophies to the fortunate contestants in the many events.

What did the day not mean also to thousands of workers all over the system who were not fortunate enough to be able to go to Altoona for the day, but who followed the reports which were wired direct from the top of one of the grandstands? Two minutes after one of the young ladies had won a close race the telegraph operator called to her from the top of the stand, "Betty, they already know all about it in Philadelphia and are proud of you." This, of course, is an extreme case, but surely the enthusiasm and comradeship of the day must mean something in the development of a better family spirit throughout the great system, as well as in increased loyalty.

After all, the great field meet, with its hundreds of contestants and thousands of spectators, was a small thing compared with the other thousands of employees and more tens of thousands of spectators who took part in the preliminary training and events all over the system during the preceding months. This, measured in terms of improved health alone, means much to the railroad aside from other aspects. Intangible, you say. Possibly so. But it will be interesting to watch the Pennsylvania in the coming weeks and months and see if it is reflected in better performance under the trying conditions which lie before it. Obviously, an athletic program in itself may not mean much in inspiring loyalty and co-operation. To be really fruitful for good, it will ordinarily be linked up with other things that were men-

tioned in the editorial entitled "Our Road" in the *Railway Age* of last week; in the last analysis it will depend for its effect, good or bad, directly upon the spirit back of the whole thing and by which it is dominated.

Speeding Up Train Movement

THE SUGGESTION has been made that in some cases freight train performance might be improved by decreasing the tonnage and thus increasing the speed. But this method could not be adopted with good results in most cases. For one thing, it would add to the number of locomotives turned at roundhouses and would not be practicable where the locomotive terminals are congested. Another method of increasing the ton-miles per locomotive would be to increase the speed without decreasing the tonnage. There are probably many cases where this could be done. Operating officers usually consider that the speed is fixed by the tonnage, but this is true only if the locomotive is worked at a definite rate.

The power that is developed depends on the amount of coal supplied to the fire. A higher rate of firing means more power and, therefore, higher speed. The maximum rate for hand firing is about 7,500 lb. per hour. Few firemen can equal this, but it would not be unreasonable to expect them to fire 5,000 lb. an hour while running. The actual rate will often be found as low as 3,000 lb. One of the principal reasons why some crews do not get over the road is because they do not develop the proper amount of power from the locomotive. Road foremen of engines by checking the rate of firing should be able to speed up the movement of trains appreciably. A method that is still more effective is to provide some additional incentive for increasing speed, either by giving the slow-freight crews an opportunity to exceed the basic 12½ miles an hour, or by establishing turn-around service. It is hard to give road crews continual supervision to keep them up to a high standard if the only object is to improve the company's operating performance, but the engineer and fireman can be depended upon to work hard to get over the road if it is to their personal advantage to do so. Still another method of increasing ton-miles per locomotive is that of maintaining the speed while increasing the tonnage per train. This also imposes heavier work on the locomotive, and makes necessary better firing. The importance of maintaining or even increasing speeds is greater now than it was a few years ago because of the necessity of paying train crews punitive overtime after eight hours. From the standpoint of locomotive efficiency the main object to be attained is an increase of ton-miles per locomotive hour, or per train hour, which is almost the same thing, and usually the way in which this has been attained has been by increasing the train load even when this had the effect of reducing the average speed.

For example, on one of the best operated railways in the entire country the average speed of the freight trains declined from 12.05 miles an hour in April to 10.7 miles in August. Because of the large increase in the average train load, however, the average ton-miles per train hour—practically the same thing as per locomotive hour—increased from 7,967 to 8,651. The result was that this railway was able to handle in August the largest freight business in its history—undoubtedly a larger business than it could have handled at higher train speeds—with maximum economy. Determination of the speeds and loads with which freight trains can be operated with the greatest efficiency and economy depends on local conditions, and therefore these conditions must always be given the most careful consideration if the best results are to be attained.

Letters to the Editor

Labor's Opportunity

EL PASO, TEXAS

TO THE EDITOR:

The idea outlined herein has been evolved as the result of disputed points between the railroad employer and employee since the writer can remember, and he is now 54 years of age. It has been strengthened by the fact that a local brick manufacturing plant, of most modern construction and equipment, was built, put in operation, and is operated by a labor organization.

Contention has always existed: First, by the employee that wages are kept down to a point out of proportion to railroad earnings. Second, that abnormal earnings thus made possible for the operating companies are accumulated to the enrichment of large stockholders and the over-payment of executives. Third, that repairs contracted for outside of the carriers' own shops represent waste of money for the main purpose of discrediting organized labor.

The employer claims that the wage scales demanded, compared with freight tariffs, permit of inadequate earnings to create legitimate and fair interest on investment, and sufficient surplus with which to care for repairs, operating expenses, maintenance of way, overhead, etc. (That this claim is valid, of record, and accounted for by various corps of most skilled men, selected by the government for their fitness, means nothing to those who contradict these facts).

Why would it not be possible to select some road which has been a profitable property, but is now in the hands of a receiver, or a previously profitable road about to be sold for indebtedness, and with our government as referee, permit allied trades unions to take such property over for operation.

Some of our best and most profitable roads have gotten into financial difficulties at times, and men like Mr. Loree have been given the hard task of rehabilitating them and putting them on their feet again.

Such a plan would open to the unions an investment for their treasury funds and men like Samuel Gompers, who have accumulated some means, should jump at the opportunity to invest some of their money in such property, where it would be safeguarded by the individuals for whom they have fought and whom they have championed. There would also be the great value of such a departure as an object lesson, highly valuable to the contestants as well as to our government.

Some capable, worthy man, identified with labor, having executive ability, but whose light has been hidden under a bushel, would be given the opportunity to accept the service for which several railroad executives receive \$100,000 and \$150,000 per year, at a salary of \$10,000 to \$15,000. In addition to this, the road under this new plan of management could immediately, with special governmental permission, reduce the freight tariffs, raise the wage scale, and put all work of repairs through their own shops, to the end that the public would at once begin to profit in saving of freight charges. All tonnage possible in tributary territory would be routed over the lines of this road; the increased revenue would go to the unions, and no element would have any reason to be dissatisfied, for the public, the patrons, would not begrudge the investors and operators the increased earnings when receiving better service at lower cost.

All new ideas are scouted as radical when the departure suggested is at such variance with custom, and yet were it possible to carry this roughly outlined plan into operation,

the result it would accomplish within twelve months would be definite and mean that which has not been attained in many years of heated argument, dispute, and struggle at cross purposes.

E. E. MORROW.

Need for Courts of Last Resort

BOSTON.

TO THE EDITOR:

In one of your recent interesting editorials on improving the personnel of the railroad service, you mention, as an essential in promoting friendly co-operation, the settlement of disagreements by having them taken before one or more referees. (Page 319, August 19.) Disputes arise in all important human affairs and provision for settling them is of the first importance; yet we go on neglecting the duty. President F. D. Underwood, of the Erie, in an interview, has proposed local arbitration of disagreements between employer and employee; which means that our present ponderous machinery for settling grievances is very inadequate. This everybody knows. It is a kind of machinery which is likely at any time (if you try to accomplish useful results with it), to come to a full stop from its own internal friction.

Failure to recognize this need of a final arbiter *who can act promptly* is the cause of half our troubles. We recognize this need in various vital matters every day, and yet in other vital matters we are oblivious to it. The Supreme Court of the United States has been called the sheet anchor of our liberties. It is more than that; its influence steadies our feet every day. Yet, what is it but a board of arbitrators? Nine men whose word we agree to heed and obey, whether they be right or whether they be wrong. All of our recent labor and wages troubles have been due to the lack of this spirit; lack of a man or men whom we can agree to obey. All efforts should be directed to finding some way to select and appoint suitable arbitrators. The futility of trying to compose our differences in any other way is illustrated by the action of the baseball men in appointing Judge Landis to boss them. The motion picture people have done the same thing, employing Mr. Hays; and a similar course is proposed in the theatrical business.

Note my italics. In the complicated affairs of the modern industrial world, there can be no satisfactory progress unless we can get rid of tedious delays. The legal profession does many things for us; but, on the other hand, too many of our lawyers make their living by manufacturing delays—or calling them down from the heavens. It is the lawyers who have taught us how to accomplish all sorts of ends, good and bad, by delay, delay and more delay. Most grievance committees spend a good deal of their time in making sure that their business shall not go on too rapidly.

There are two halves to the arbitrator problem. It is hard enough to find a man who can comprehend our controversies and who will have the courage to decide them with absolute freedom from fear or favor; but the second half is harder yet; to get ourselves into the state of mind—and heart—where we are willing to accept the arbitrators' decisions when they are rendered. (It is yet to be demonstrated whether or not this exalted mental and ethical state has been reached and can be maintained by the baseball and movie people.) The first qualification of an arbitrator is impartiality; this is more important than education or than knowledge of the railroad field; but the latter can be acquired; an impartial mind cannot. Equally important with impartiality is the arbitrator's reputation for impartiality. This quality is valueless unless people recognize it. Mr. Underwood's idea is a good one; but we need a lot of committees, right away, to hunt for the individuals whom we can trust to tell us what to do, or what to submit to, when, left to ourselves, we should sulk, or strike or fight. Every large road needs a score of men.

E. MOSEMAN.

Work Under Way on Union Station Headhouse

Architects Solve Difficult Problem in Combining Office Building with Terminal Structure

WITH WORK in progress on the foundation and basement of the great headhouse and five of the new station tracks already in use, the completion of the new union station at Chicago is now definitely in sight. Progress on the plans for the headhouse also has now reached the point that permits of a more tangible conception of the principal features of this important terminal than has been possible heretofore.

The general character of this station is now a matter of rather common knowledge among railway men; it will comprise a double stub terminal with two grids of station tracks extending to the north and south respectively from a train concourse lying between the Chicago river and Canal street, with the headhouse occupying an entire block west of that street. The station tracks and the main floor of the station are depressed below the streets, permitting the latter to pass over the tracks and over the connection between the headhouse and the train concourse.

The original plan for the headhouse contemplated a structure of monumental type housing only the main waiting room and the auxiliary station facilities, and foundations were designed and constructed on the basis of the loads imposed by such a structure with an allowable foundation bearing of 6.5 tons per square foot, transmitted to concrete caissons carried to hardpan about 60 ft. below city datum (lake level). The subsequent decision to provide a structure to serve the dual purpose of a station headhouse and a high office building necessarily imposing loads much greater than those originally contemplated, introduced a serious foundation problem and naturally raised a question as to the application of greater loads to the caissons already in place. As a means of affording a possible answer to this, two test caissons were sunk on adjacent ground and subjected to test loads, as a result of which authority was granted by the city building department for an increase in the allowable bearing pressure to 10 tons per square foot subject to certain restrictions.

Further complications attending the decision to construct the office building type of headhouse arose from the fact that a redesign of the building superstructure resulted in some marked changes in the location of building columns, so that the existing caissons would not in all cases fit the new column locations, and although the use of reinforced concrete distributing girders made it possible to utilize nearly all of the caissons already in place, the general result of the change in plans has been a considerable increase in the number of caissons. This additional foundation work is now well under way.

General Plan Not Changed

The earlier plan for the headhouse provided for a great waiting room in the center of the block, and by designing the office building as a hollow square with a central court the principal feature of this plan has been retained without involving the support of any column loads over the 100-ft. span of the waiting room ceiling. This not only insures adequate skylighting of this waiting room, but also permits of an application of the originally contemplated architectural treatment, that of the Roman baths.

The base of the building will occupy practically the entire block bounded by Canal, Jackson, Clinton and Adams streets, and will have a length of 372 ft. north and south by 319 ft. 10 in. east and west. However, the mass of the building above the base, that is, the outline of the office

building portion, is to be set back 30 ft. 4 in. on the Canal street side, 39 ft. on the Clinton street face and similar amounts on Jackson boulevard and Adams street, giving the effect of a terraced base, extending practically to the fourth floor level. On Canal street, this is to be treated as a portico comprising a colonnade of Roman Doric columns, 39 ft. high, and will serve to emphasize the two main entrances to the station. A similar treatment is to be used on Clinton street except that the building wall will be flush with the backs of the columns. On the Jackson boulevard and Adams street sides, the base projections of the building will be occupied by two cab and baggage driveways entering at the two west corners of the building with ramps descending toward the east, the outside walls being pierced by large openings for the sake of ventilation and lighting. Architectural emphasis will be given to the two entrances to the driveways by ornamental pavilions at the two corners of the building, and for the sake of symmetry, similar construction will prevail at the two east corners.

The underlying thought in developing the design of the station was to evolve a plan of the utmost simplicity in which all facilities of direct service to the passenger in arriving or departing on trains are assembled on a single level. Special pains were taken to insure that the routing of the passengers through the station would not only be obvious but would also afford direct access to the various facilities with practically no opportunity for confusion on the part of even the most inexperienced traveler. It is the opinion of the officers of the station company that the plan is unique among stations placed either above or below the street level and that the efforts and expense incurred in developing the plan will be entirely warranted by the operating results to be obtained.

An understanding of the station arrangement implies a thorough conception of the arrangement of the street grades. To provide adequately for a separation of the track grades from those of the streets, it was necessary to raise Canal street to elevation + 26, which is approximately the same elevation as the bridges over the tracks and the river, whereas the elevation of Clinton street, which is on a level with the other streets to the west of the station is + 15, necessitating descending grades from Canal street to Clinton street on the two streets flanking the headhouse on the north and south. Therefore, by placing the level of the main waiting room floor at + 10, it was readily possible to provide a concourse leading to the east under Canal street, while the fact that Clinton street is 11 ft. lower than Canal street was also of advantage in providing ramps for the descending driveways entering from the two Clinton street corners.

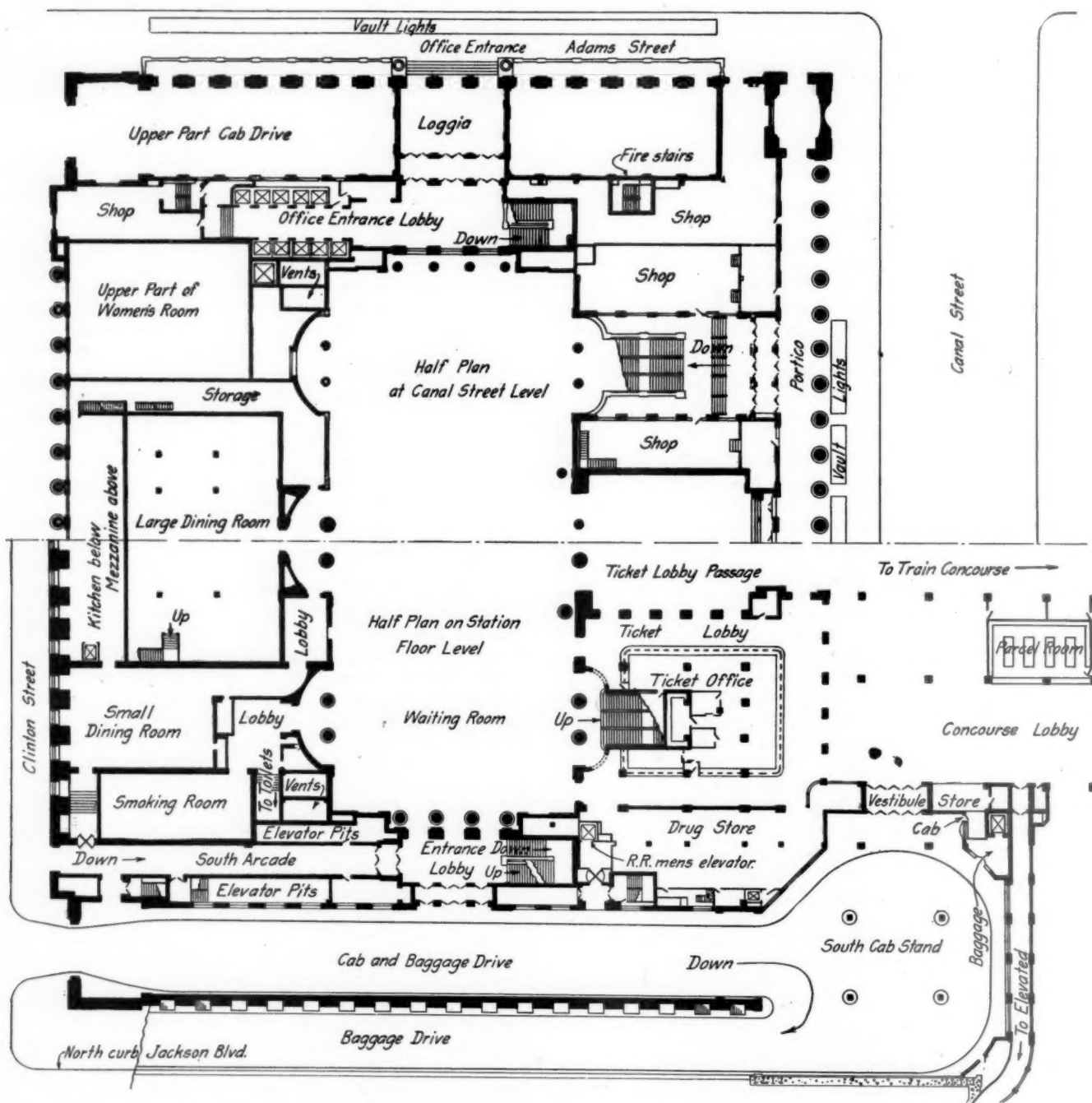
The main waiting room will be an enormous hall, 100 ft. wide by 217 ft. long and having a ceiling 114 ft. from the floor. The interior treatment will consist primarily of paneled walls, with recesses marking large openings at each end and at three equally spaced intervals on each side, these openings being emphasized by marble columns surmounted by a classic entablature that extends around the room at a height of 47 ft. above the floor. Above this level will be a clerestory covered by a flat barrel vault ceiling, the walls being pierced by windows at each end and at three places on each side. Although this room will have no outside walls, these openings will be afforded natural light because the walls of this clerestory are to clear the interior walls of the office building by a distance of 16 ft. The ceiling of the waiting room will consist entirely of skylights with

the exception of one tier of coffers around the sides and ends.

The main entrance to this waiting room from the street will comprise duplicate entrance lobbies 40 ft. wide by 85 ft. long, fronting on Canal street 70 ft. 10 in. to either side of the east and west axis of the building. These lobbies will enclose stairways leading down to the waiting room level, but will function also as arcades giving access to shops bordering on either side. In addition, a large part of the

trian arcades 11 ft. 10 in. wide by 134 ft. long communicating with Clinton street.

The passengers entering the waiting room will find the space to the west of it devoted to restaurants and separate accommodations for men and women, one each of the three large doorways mentioned above marking entrance to each of these three facilities. The south doorway will communicate with the smoking room and with a stairway leading to



Composite Plan of the Headhouse on the Station Floor and Canal Street Levels

Canal street front of the building not occupied by the entrance lobbies will be devoted to shops.

There will be two other entrances into the waiting room, namely, at the north and south ends where three doors will lead to entrance lobbies 18 ft. by 43 ft., communicating directly with the cab and baggage driveways and will serve as the cab entrances to the waiting room. To the west of these entrance lobbies a connection will be had with pedes-

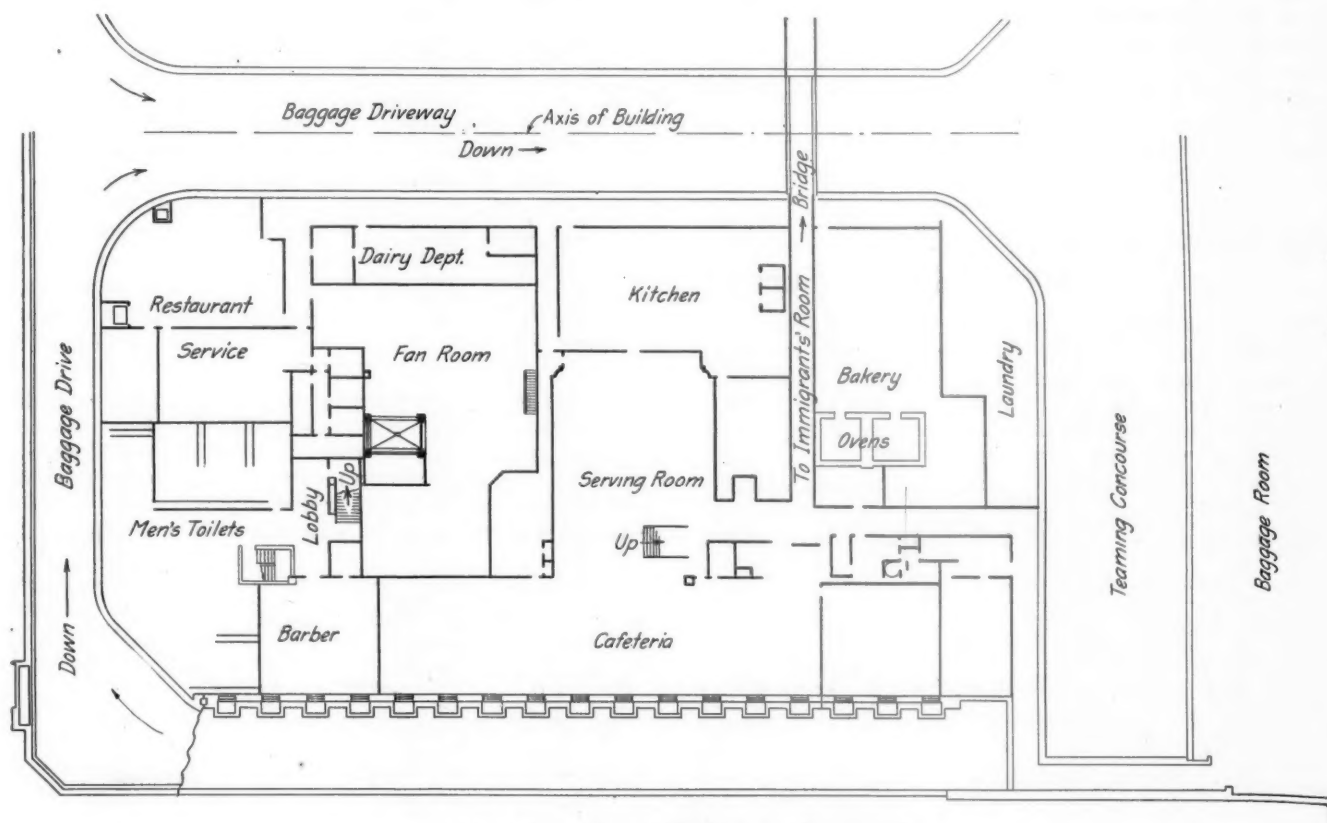
a toilet room in the basement. The central doorway will lead to a large restaurant and, by means of a lobby and corridor, to a smaller restaurant affording greater seclusion from the activities of the station. The north doorway in the west wall will lead to the women's waiting room and by a stairway to a toilet room in the basement.

The main restaurant will be a room 48 ft. by 110 ft. with a ceiling 40 ft. above the floor. It will have a walnut

wainscot 12 ft. high above which the walls will be treated with paneled caenstone. The ceiling will have an over-all pattern of coffer treatment in colors. The smaller dining room, 40 ft. by 60 ft. with a 30 ft. ceiling, will have somewhat similar architectural treatment.

On the main axis of the building in the east wall between the two main stairways will be a large doorway leading to the ticket concourse from which direct access is had further east to the concourse lobby under Canal street, and beyond that to the train concourse. However, this central passageway will be supplemented by smaller doors on each side of the two stairways so that, with the exception of the space occupied by these stairways, one will be able to pass from the waiting room into the concourse space to the east at almost any point in the entire length of the east wall. In other words, there will be an open passageway from the waiting room in the general direction of the train concourse,

arrangement as to isolate them from the station facilities. Accordingly, entrances have been provided in the center of the Jackson boulevard and the Adams street sides of the building at a considerable distance from any of the entrances to the station proper. By provision for a flight of six steps from the sidewalk level access will be had to a loggia with a floor at an elevation $+23.5$, or sufficiently above the level of the inclined driveway from Clinton street so that this loggia may bridge across the driveway with a sufficient clearance for the vehicle traffic. This loggia leads to an entrance lobby abutting on the end of the waiting room, but at an elevation 13 ft. 9 in. above the station floor level so that it gives the general effect of a balcony overlooking the waiting room. To the west of this loggia is a corridor leading to two banks of five elevators each. These elevators will not run below the office entrance level so that they cannot be used for direct communication between the offices



Plan of the South Half of the Basement

having a total width of 192 ft. Immediately under the south stairway an enclosed grill or cage 64 ft. by 49 ft. will be provided for a ticket office, affording service windows on all four sides. Under the north stairway a similar enclosure will be provided for the baggage service with an elevator, chute and stairway communicating with the baggage room on the floor below.

Direct entrance to the concourse lobby will also be afforded by vestibules to the north and south connecting with the two cab stands under the two Canal street corners of the building at the lower end of the driveways descending from Clinton street. In addition to suitable landing platforms, adjacent space will be devoted to a taxicab office, baggage service counter for checking hand baggage, and a toilet room for cab men.

Separate Entrances for the Office Building

Since the headhouse will encompass an office building of large size it is essential to provide adequate entrances to the office building in such locations and under such an ar-

and the station. This arrangement was deemed necessary to separate the offices from the station, but for the benefit of office employees who have occasion to go into the station a stairway has been provided to the south of the office building lobby which leads to the station floor level in the entrance lobby at the end of the waiting room. As a further facility for railway officers or for trainmen reporting to division offices on the upper floors a special elevator connection to the upper floors will be provided with entrance on the station level, opening out onto the cab drive from which it is but a short walk to the concourse. Further means of communicating between the office floors and the ground level will be afforded by four stair wells enclosed in fire walls in the four corners of the building.

Baggage Room in the Basement

The driveways leading from Clinton street to the cab stands are also used for access to the baggage room in the basement. From the cab stands a continuation of the ramp is to be carried westward outside of the first run of the drive

to the corner of Clinton street, thence to the middle of the block on Clinton street and thence eastwardly on the center line of the building to a teaming concourse under Canal street. This concourse will be 47 ft. wide and will have tailboard space for a length of 382 ft. along its east side beyond which all of the space under the train concourse is to be occupied by the baggage room. The remaining portion of the basement, that is, the part directly below the headhouse will be devoted to a variety of purposes. One interesting innovation is provision for a large cafeteria near the south wall of the building, with communication from the main waiting room by means of a stairway leading down from the south vestibule, which will have a table room 38 ft. by 144 ft. to be supplemented by a service room 50 ft. by 55 ft. and a kitchen 40 ft. by 76 ft. In the north half of the building a room 54 ft. by 90 ft. will be assigned to immigrants and connected by a corridor to a stairway that gives direct access to the train concourse. Other portions of the basement are to be used for the main toilet rooms, storage space for the concessions, employees' rooms, etc.

The design and construction of the union station is under the direction of J. D'Esposito, chief engineer, Chicago Union Station Company. Graham, Anderson, Probst & White of Chicago are the architects.

Long Island to Improve and Extend Electric Service

TO CARE FOR present requirements and to prepare for the carrying out of a plan for improving and extending the electric service on the Long Island, a 25,000-kilowatt generator is now being installed in the Long Island City power plant and additional feeders are being run in conduit along the right of way to Forest Hills.

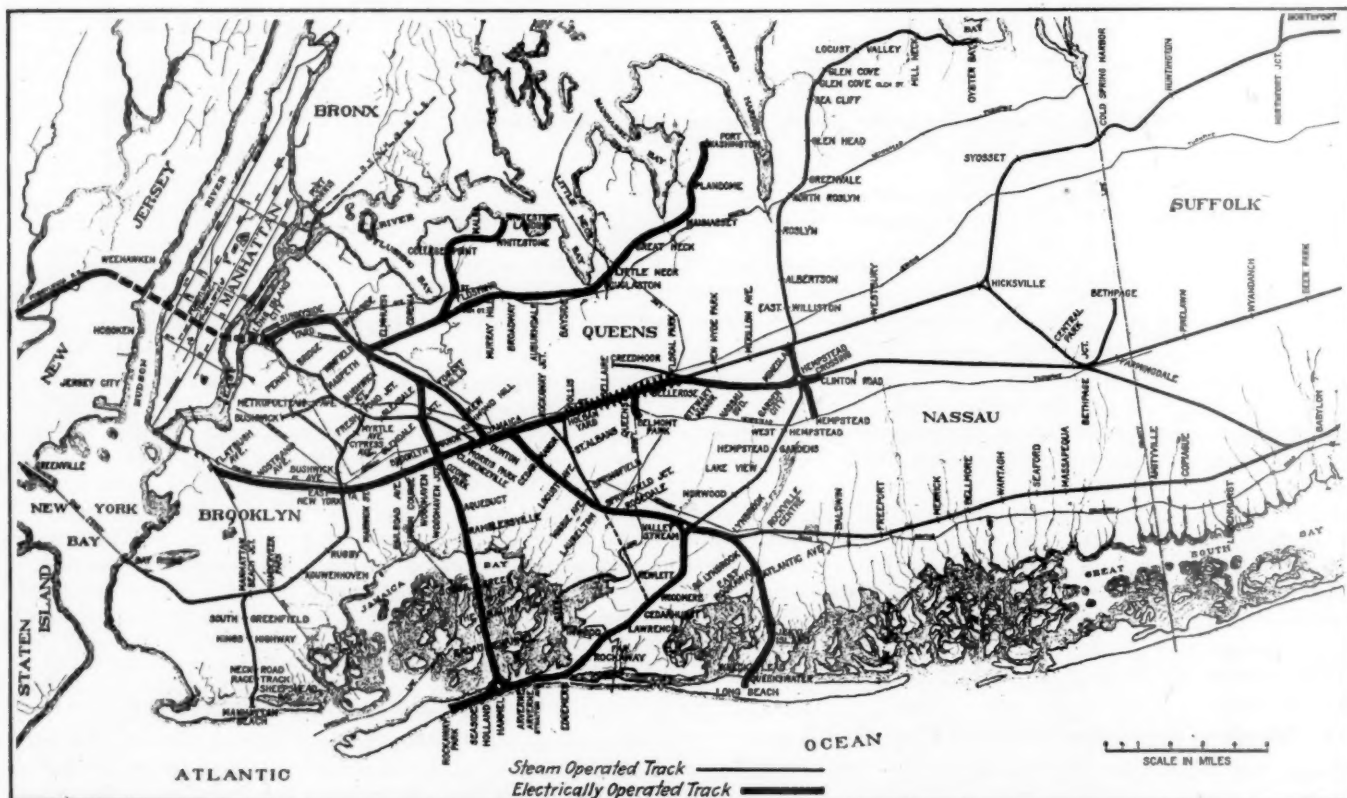
This fall the company will begin the extension of the elevated structure through Hollis, eastward through Queens to the Nassau County boundary line, a distance of about

two miles. This section will be elevated and four-tracked at the same time and the four-track section will be continued to Floral Park, two miles farther east. It is estimated that the work will require about a year and a half for completion at a cost of approximately \$2,000,000. Building of many new homes in Hollis, Queens, Bellrose and Floral Park has caused a large increase in traffic with resultant congestion. The new four-track elevated structure will make it possible for express trains to pass locals between Hollis and Queens and thus speed up operation over the entire line.

Tentative plans for future building include extending the electrification of the Montauk division from Lynbrook to Babylon, a distance of 19 miles, the entire Oyster Bay branch and the Wading river branch to Northport. It is also planned to connect the old unused Central Railroad line with the main line to divert express service from the entire Montauk division east of Babylon through Hicksville and Mineola to Jamaica.

The Long Island is properly a standard railroad and it is the contention of its president, Ralph Peters, that New York City should not depend on the Long Island to furnish rapid transit, as this transportation line is needed to serve all other parts of Long Island for passenger and freight transportation. In explaining the situation President Peters said: "I have tried to impress upon the transit commissioners of this city that they ought to build a four-track rapid transit line from Jamaica over the Queens Boulevard route to Long Island City, thence under the river and across the city to 10th Ave., intersecting all the north and south lines on Manhattan Island and giving the Borough of Queens real rapid transit."

ACCORDING to a report presented to the Italian parliament, the Italian railways at present possess 6,436 steam and electric locomotives and they have under construction 475 steam and 82 electric locomotives. Grants have been made for the construction of 120 locomotives and another 75 will shortly be ordered. Within the next five years 600 steam locomotives will be scrapped.



Western Lines of the Long Island

New Shop Agreements Have Novel Features

Union Pacific and Burlington Wage Rates Recognize Varying Degrees of Skill Within the Crafts

AMONG THE RAILROADS which have recently negotiated agreements with newly organized associations of their shop employees, the agreements of the Union Pacific System, effective September 1, and the Chicago, Burlington & Quincy, effective September 15, are of particular interest because of the extent to which they depart from the practice established by Labor Board decisions, both as to working conditions and rates of pay. The new wage rates established by both of these agreements are similar in that the various craft classifications have been subjected to a considerable subdivision based on the degree of skill required in the performance of the work, and each subdivision carries its own wage rate. Generally speaking, these wage rates range from 15 cents above to from 7 to 13 cents below the mechanics' rates established by the last wage reduction of the Labor Board.

In both agreements the minimum rate for work ordinarily assigned to fully qualified mechanics is two cents an hour above that established by the Labor Board. The work of specialists or handy men, requiring more skill than the class of work ordinarily assigned to helpers but not the skill of a fully qualified mechanic, is paid for at rates lower than the mechanics' rates established by the Labor Board but above the rates for helpers.

Wage Rates for the Locomotive Crafts

In the special craft rules of the Union Pacific agreement the mechanics in each craft are divided into two groups: (1) those doing work requiring fully qualified mechanics, and (2) those doing work not requiring the skill of fully qualified mechanics.

In the machinists' rules there are 28 classifications of fully qualified mechanics. The first eight classes each receive a rate of 85 cents an hour and include specialists (who determine the time and methods required for the performance of all operations), layers out, tool makers, die makers, valve setters, large vertical turret lathe operators, special milling machine operators and axle and crank pin lathe men. The next five classes receive a rate of 80 cents an hour. These classes include operators of frame and cylinder planers and frame slotters, air brake specialists, valve gear repair men and inspectors required to sign affidavits under the Federal locomotive inspection rules. The next four classes receive a rate of 76 cents an hour and include air brake repairmen, machinists assigned to such work as power plant machinery and roadway equipment, autogenous welders and operators of horizontal boring and milling machines. The last 11 classes receive a rate of 72 cents an hour. The work in these classes includes that of first-class machinists, locomotive inspectors not required to make affidavits, machine operators not specified in other groups and steam pipe and superheater men.

In the second or less skilled group of mechanics there are 26 classifications. The highest rate in this group is 68 cents an hour and applies to the first 10 classifications. These include operators of semi-automatic machines, operators of lathes and shapers on work not specified under any of the superior classifications and operators of driving wheel lathes, radial drills and ordinary drill presses. Boiler stud men and men assigned to laying out and squaring up engine trucks and trailer frames and fitting up truck brasses are also included in this group. The next nine classes receive a rate of 64 cents an hour. These include engine and trailer

truck men who are assigned to repairing trucks and putting up shoes and wedges, car wheel lathe operators, tire setters, men on valve and cock work, spring and brake rigging men, second-class boring mill operators and operators of engine and tender truck axle lathes. The next two classes include operators of rough grinders and tool grinders, and receive a rate of 60 cents an hour. Men repairing tender trucks, and applying and removing couplers, metal bumpers, metal pilots and engine and tender drawbars, are rated at 60 cents an hour if of over one year's experience and 57 cents an hour if of less than one year's experience. Gas and electric cutters and men doing machinists' work on metal cabs, running boards, stack saddles, brackets, etc., receive a rate of 57 cents an hour.

Helpers with over one year's experience are rated at 49 cents an hour and those with less than one year's experience receive 47 cents an hour.

Each of the other locomotive shop crafts is subdivided in a similar manner, although the number of classes from the nature of the work is not as large as in the case of the machinists. But throughout the agreement each classification is so specific as to leave little opportunity for misunderstanding of the jobs to which it applies.

With the exception of the blacksmiths, the first classification under each craft is that of the specialist competent to determine the time and the methods to be used in the performance of all operations in the craft, and rates for the various groups are 85 cents, 80 cents, 76 cents, and 72 cents an hour for men who are fully qualified mechanics. In the case of the blacksmiths, the heavy hammersmith working on material six inches or over receives a rate of 95 cents an hour.

For work not requiring the skill of fully qualified mechanics the rate groups in each of the locomotive shop crafts are 68 cents, 64 cents, 60 cents and 57 cents an hour respectively. The rates for ordinary helpers are the same in all of the crafts, but a rate of 54 cents an hour is applied to certain special jobs such as helpers on hand flanging work and boiler washers in the boilermakers' craft, and first furnace heater helpers, hammersmith helpers, first and second fire helpers, and hammer operators in the blacksmith shop.

Carmen's Rates

Car repairmen are divided into two separate crafts: passenger car men and freight car men. Fully qualified passenger car mechanics receive the same rates as the locomotive crafts. The 85-cent rate applies to specialists, layers out and decorators. Letterers and strippers, pattern makers and first-class cabinet makers receive 80 cents an hour; mill wrights, electro-platers, and autogenous welders, 76 cents an hour; burnishers, first-class painters, paint mixers, upholsterers, wood machine operators, second-class cabinet makers, first-class locomotive carpenters, and carmen working on passenger car bodies, 72 cents an hour.

Of the less skilled mechanics, truck and platform men, second-class locomotive carpenters and air brake men receive 68 cents an hour; passenger car inspectors, 65 cents; hand car carpenters and rough painters, 64 cents; seamsters and seamstresses, 60 cents; gas and electric cutters, 57 cents, and paint removers, oilers and brassers, 54 cents an hour. The same helpers' rates apply as in the locomotive shop crafts.

Starting at 38 cents an hour, coach cleaners receive up to 42 cents an hour depending on the length of service.

Freight car repair men are classified as fully qualified

mechanics and helpers. There are six rate groups among the mechanics, the highest of which receives 75 cents an hour and the lowest 54 cents an hour. The first group includes specialists, layers out, wrecking derricks engineers and autogenous welders. The second group, which receives a rate of 71 cents an hour, includes air brake rack men and triple valve repairers. The third group receives a rate of 67 cents an hour and covers car carpenters and flask makers. Car inspectors and car men on all ordinary car repair work, starting at 54 cents an hour for less than one year's experience, and adding three cents an hour for each additional year's experience, receive a maximum of 63 cents an hour. Stencilers, painters and gas and electric cutters receive a rate of 57 cents an hour, while oilers and brassers are rated at 54 cents. The rates for helpers are the same as in the other crafts.

The wage rates established in the Chicago, Burlington & Quincy agreement are practically the same as those of the Union Pacific, although the classifications are somewhat less specific and less jobs are included in the higher rate groups than in the latter agreement. Like the Union Pacific agreement the Burlington agreement groups passenger and freight car repair men in separate crafts.

Both agreements provide differentials above the standard rates for men employed at certain specified points on the system, and in the case of coach cleaners on the Union Pacific System, those employed at Los Angeles receive a rate from four to six cents below the standard for the system, depending on the length of service.

More Seniority Groups

In general, the working rules of the Chicago, Burlington & Quincy do not differ widely from those established by Decision No. 222 of the United States Railroad Labor Board. In some respects, however, they are more specific. Both the Union Pacific and the Burlington agreement provides considerably more sub-divisions in the seniority group, particularly those for the car men, and both provide that where the requirements of the service justify such assignments, employees may be assigned to work within a spread of twelve hours with one interval of relief of not less than two hours' duration. Both also specify that a mechanic may be required to perform the work of more than one craft when a literal application of the craft classification would require the use of more men than are actually necessary to perform the work.

The Union Pacific agreement provides for 11 seniority groups of mechanics. These are machinists, boiler makers, blacksmiths, sheet metal workers, electricians, pattern makers, upholsterers, painters, mill men, car men (including locomotive carpenters) and coach cleaners.

In this matter the Burlington agreement has gone even farther. Separate seniority lists are maintained for machinists in the machine and erecting shops and wherever forces are under separate supervision separate seniority lists are to be maintained. Sheet metal workers are arranged in two lists, divided between the tanners and copper smiths, and plumbers and pipe fitters. Electrical workers are sub-divided as electricians, power plant electricians, and electric crane operators (two classes). For the car men, separate seniority lists are maintained for pattern and cabinet makers, wood working machinists, upholsterers, silver-platers, coach builders, trimmers and repairers and locomotive carpenters; painters (letterers, etc.); painters (plain painting); car inspectors, and freight car builders and repairers. Wood and steel car repairers are carried on separate seniority lists.

Union Pacific Stabilizes Employment

One of the most significant features of the Union Pacific agreement is the article providing for the increase or reduction of expenses with as little disturbance as possible to regu-

larity of employment. Under this article both the management and the local employees' representatives are charged with the responsibility to so regulate the bulletined hours of assignment as to reduce to the minimum the necessity for increasing or decreasing the number of men employed. For this purpose variations in the bulletined hours may be made by agreement from a minimum of seven hours a day for five days a week, or 35 hours a week, to a maximum of 58 hours a week. The assignments are to be so regulated as to provide as nearly as possible an average of 8 hours a day for the total number of working days in the year.

The overtime rules conform to the requirements of this article and instead of applying to time after eight hours, are made to apply after the normal bulletined hours, whatever they may be.

Stationary Engineers and Shop Laborers

The Union Pacific System has also negotiated a separate agreement with other shop, engine house and power plant workers, who are included in the Shop Employees' Association. This agreement, which is essentially the same as that applying to the mechanic, takes in the employees formerly associated with the International Brotherhood of Stationary Firemen and Oilers and the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers. The same system of detailed classification and varying rates of pay has been worked out for the employees within this group as that which applies to the mechanical trades.

Settling Grievances

By the terms of the agreement an adjustment board is created consisting of an equal number of representatives from the Association and the Union Pacific System lines. All differences of opinion as to the meaning or application of the rule, or as to the innocence or guilt of any employees disciplined, which are not satisfactorily adjusted between the general manager or lower officers and the representatives of the employees are to be referred to the adjustment board, the decision of which is to be final and binding on both parties. Should a dispute arise involving the revision of the rules or rates of pay, the agreement provides that such disputes be referred to the United States Railroad Labor Board for settlement, the decision of the Labor Board to be final and binding on both parties.

The Union Pacific agreement provides for the application of the so-called check off system to the collection of association dues. Provision is made, however, that upon giving 90 days written notice to the other, either party may withdraw from this arrangement.

Strike Situation Continues to Improve

CONDITIONS in the shops of carriers that have adopted the so-called "Willard-Jewell" peace plan and of those that have met the strike issue by forming company associations or by continuing to recruit new forces are rapidly approaching normal. Strikers who returned to work under the settlement terms have done so with less signs of disorder than occurred last week when returning union men demanded the dismissal of non-union workers and the restoration of "bosses" jobs to former union men. Most of the returned men have resumed work in good spirits and there has been comparatively little interference with strike breakers employed by the roads during the course of the controversy.

The use of dynamite and bombs and outbreaks in the form of rioting and slugging continue to decrease as shown by the small number of such cases that have been reported. Among these were a bomb explosion in the Chicago, Burlington & Quincy roundhouse at Kansas City, Mo.; the

destruction of a car by a bomb in the Missouri, Kansas & Texas yards at St. Louis, Mo.; a fight which marked the return of strikers at Knoxville, Tenn., where 14 men received minor injuries and non-union men were driven from the shops before armed guards quelled the disturbance; a clash between guards and alleged strike sympathizers at Gretna, La., in which four were wounded; the bombing of a Central of Georgia trestle near Macon, Ga.; the bombing of the home of a Louisville & Nashville employee at Birmingham, Ala., and the bombing of an Illinois Central bunkhouse at Mattoon, Ill.

Nineteen roads, according to a statement made by John Scott, secretary of the shop crafts organization, have settled with the striking shopmen on the basis of the "Willard-Jewell" agreement. The following are the roads named by Mr. Scott: the New York Central lines with subsidiaries, except the Indiana Harbor Belt; the Baltimore & Ohio; the Chicago, Milwaukee & St. Paul; the Chicago & North Western; the Seaboard Air Line; the Chicago, St. Paul, Minneapolis & Omaha; the Southern; the Mobile & Ohio; the Minnesota & International; the Minneapolis, Dakota & Western; the Monon; the Green Bay & Western; the Elgin, Joliet & Eastern; the St. Paul Bridge & Terminal; the Duluth, Winnipeg & Pacific; the Louisville Railroad & Navigation Company; the Macon, Dublin & Savannah; the Buffalo & Susquehanna, and the Western Pacific. Of the 19 roads which have reached a settlement, only 10 are Class I roads and the 19 represent a mileage of but 54,056 miles, or 23 per cent of the total mileage of the country.

In the East

The strike situation in the east changed little during the week. At the time of going to press representatives of the striking shopmen were in conference with officers of the Erie at Youngstown, Ohio, and it was stated that an early agreement was expected. On the other hand, several roads, including the New Haven, the Lehigh Valley and the Norfolk & Western, have definitely rejected the overtures of strike leaders looking toward conferences with them. E. J. Pearson on Monday gave out the following statement telling of his road's rejection of the shopmen's peace move:

Through the source from which the inquiry was received, definite reply has been made that the New Haven would not consider any such settlement. This last statement on behalf of the management of the New Haven should set finally at rest any expectation that the New Haven will depart from the position maintained throughout the strike, that no man who has left its service on strike will be re-employed except as a new man, if re-employed at all, and that no qualified man now or hereafter employed who desires to remain in the service will be displaced to make room for returning strikers.

Settlement of the shopmen's strike under the Willard-Jewell plan was effected last week by the Chesapeake & Ohio; the railroad refused, however, to make any adjustment with striking clerks.

The Association of Railway Executives announced on Tuesday that 372,000 men, approximately 88 per cent of normal forces, were now at work in the railway shops of the country.

Due to the great increase in anthracite production and the importance attached to its movement, the Lackawanna and the Lehigh Valley have extended their embargoes to prohibit the acceptance of all classes of traffic for movement anywhere except priority commodities.

Southern Tells of Terms Made

With Striking Shopmen

Fairfax Harrison, president of the Southern Railway, in a statement given out to public officials of the territory served by his company, gave in full the terms of the settlement his road made with strikers. This settlement involved the acceptance of the Willard-Jewell agreement verbatim. Mr. Harrison said, in part:

In accordance with our announced intention, we began on August 15 to recruit forces, and from day to day added to the men in the shops until we had at work 7,599 men, equivalent to 65.7 per cent of a normal shop force. None of the craftsmen so enlisted sought or was promised a permanent job. They were mercenary troops and took service specifically as "strike-breakers." It is significant that many of them were striking shopmen from other railroads.

On September 14 the chairman of the strikers' committee asked us for a conference, advising that he was authorized to negotiate a separate peace. As the result of the ensuing discussion, a treaty was made, adopting verbatim the so-called Chicago agreement. This treaty is quoted in full on the next page.

The agreement speaks for itself. There is no understanding, express or implied, varying the terms of it.

The men return to work upon the reduced wages fixed by the Labor Board.

Willard Addresses B. & O. Employees

Daniel Willard, president of the Baltimore & Ohio, has issued an appeal to officers and employees of the company asking for a genuine spirit of co-operation in handling the heavy traffic which the road is called upon to move. The statement reads in part as follows:

During the past ten weeks, owing to the fact that a large number of the men employed in the shops were on strike, the Baltimore & Ohio Company has been obliged to curtail its service to a considerable extent. Much through freight, which customarily would move over the Baltimore & Ohio rails, has been diverted to other lines. The pressure for coal since the end of the strike of the bituminous coal miners has also added to our difficulties and made it impossible to fully serve shippers located on the lines of the Baltimore & Ohio and at some places dependent wholly upon this company for transportation. Nevertheless, the shippers have shown great patience under trying circumstances.

Now that the Baltimore & Ohio men have returned to work, the public will expect an immediate resumption of normal operations. This will, of course, be impossible, no matter how hard we may try to meet the requirements of the situation. We cannot in a few days recover what was lost in a period of more than two months. However, by a united effort and with a determination on the part of everybody connected with the Baltimore & Ohio System to restore normal conditions at the earliest possible moment, in order that we may give to the public the service it has a right to expect, a remarkably quick recovery can, without doubt, be made.

The officers and men, upon whom an unusual burden has fallen during the strike, have undergone a great strain. The management realizes this and appreciates the efforts and sacrifices they have made. The men who have been idle have experienced a loss in wages equal relatively, perhaps, to the severe loss which the company has sustained in consequence of the strike. To regain the business which naturally and normally belongs to the Baltimore & Ohio, to handle the business which has been held back, but will now move, together with the increase which we must look for, due to a lessened coal production during the past summer, is a task which we must now unitedly attempt to perform. It is a big task, but one which I believe we can accomplish, and accomplish quickly, if there is a genuine spirit of co-operation among all connected with the Baltimore & Ohio service.

Sand and Gravel Producers

Want More Cars

WASHINGTON, D. C.

REPRESENTATIVES of the National Association of Sand and Gravel Producers at a hearing before Commissioners Aitchison and Cox of the Interstate Commerce Commission at Washington on September 21 asked that the commission modify its priority orders in favor of coal so as to remove all preference in the use of open top cars except in favor of the most essential users of coal. They expressed appreciation of the modification made in Service Order No. 25 allowing the use of open top cars for other commodities in the direction of the mine, but maintained their objection to any "rules" restricting their use of open top cars.

Most of the witnesses asserted that there was no serious emergency in the coal situation and generally said that there was plenty of coal to be had in their communities, although

at a high price, and they thought that an unreasonable number of cars of coal were held under load. This they were inclined to attribute to speculative holding, although it developed that the principal points they had in mind were those where large numbers of cars are required to keep up a steady movement. It was stated that from 14,000 to 20,000 cars were being held at Cleveland and Commissioner Aitchison said that experience had demonstrated that about that number were needed to avoid delay in dumping at the docks for lake shipment. Whenever a witness referred to the holding of cars under load for higher prices, Commissioner Aitchison asked for specific information, saying that the commission desired to watch that kind of cars because they could be used for other purposes, but in general the testimony along this line was rather vague.

Commissioner Aitchison asked various witnesses if they had not been warned well in advance of the probability of coal shortage and car shortage, to which the reply was that while they had expected these things they had not been warned of a priority order and that in any event it was generally impracticable to ship and store roadbuilding materials in advance. To those who insisted that there was no fuel emergency because they had observed no shortage of coal, Mr. Aitchison pointed out that the exercise of the priority orders had relieved the emergency to a considerable extent and that that was the purpose of the orders.

Commissioner Aitchison also displayed great interest when many of the sand and gravel men stated that they had been told by railroad operating officials that they could meet the requirements both for coal and for roadbuilding and construction materials, if given a free hand. One witness stated that L. W. Baldwin, vice-president of the Illinois Central, had made such a statement, but after Mr. Aitchison had apparently taken a note of the name no more names were forthcoming. Mr. Aitchison said that the commission was interested in finding out which railroad men were talking to shippers in one way while their executives were talking to the commission in another, and said that the Illinois Central had recently come to the commission and stated its inability to get enough fuel for its own purposes and had been given a Class I priority order for coal from the West Kentucky fields. He said that during the many years of his experience as a state and federal commissioner, he had been told thousands of times by shippers of railroad officers who had said they could do various things if the commission would only let them.

A representative of the state highway officials urged that the commission remove all restrictions on the use of cars except for coal necessary for the comfort of the people, saying that no industry should be shut down and that all should be given an opportunity to earn enough to pay their coal bills. Mr. Aitchison pointed out that if the commission should grant the request 100 per cent there was no assurance that the sand and gravel producers would get all the cars they desired, because of the keen competition of other industries for the cars. When the witness said that the shippers expected to take their chances with the general car shortage, but that the commission's conscience would be more clear if it removed all "rules" which created the shortage of cars for any industry, Mr. Aitchison said that his conscience would be clear if he were certain that people would not freeze this winter. He also pointed out that while many governors and other branches of the state governments are flooding the commission with demands for coal, the highway officials representing other branches are presenting a totally inconsistent position and that it would be helpful if the state authorities would get together and help in pointing out to the commission where the public interest lies.

To the repeated statements that there is plenty of coal, Mr. Aitchison said that as soon as the commission is convinced that every one has all the coal they need, it will be

very glad to relax its orders. He pointed out that the sand and gravel industry is not the only one that is complaining of car shortage and asked if the witnesses had any figures to demonstrate they were not getting their fair share of the cars, but none were forthcoming. When reference was made to an accumulation of 600 unbilled cars of coal at Chicago, he said the commission had carefully investigated this report and had ascertained that the number was no more than was customary and necessary to handle the business in a community as large as Chicago.

Cab Signals In France

THE Paris, Lyons & Mediterranean now has about one-third of its passenger locomotives fitted with audible cab signals for repeating the indications of distant signals; and the management plans to increase this number steadily. This company began its first test with audible cab signals 20 years ago, on four distant signals fitted with contact bars, and in 1908 five new types of audible cab signals were put on 12 engines, and apparatus was fixed at 16 distant signals. From these tests the present type was evolved, which was applied in 1912 on 140 express engines and at the 268 distant signals of a main double track line, 255 miles long.

These experiments came to a standstill during the great war, but they were resumed in 1920; and installations are now being made extensively.

An officer of the road has sent in the following data:

LOCOMOTIVES IN SERVICE

Passenger	1,556
Passenger or freight	831
Freight	2,101
Switching	402
	4,890

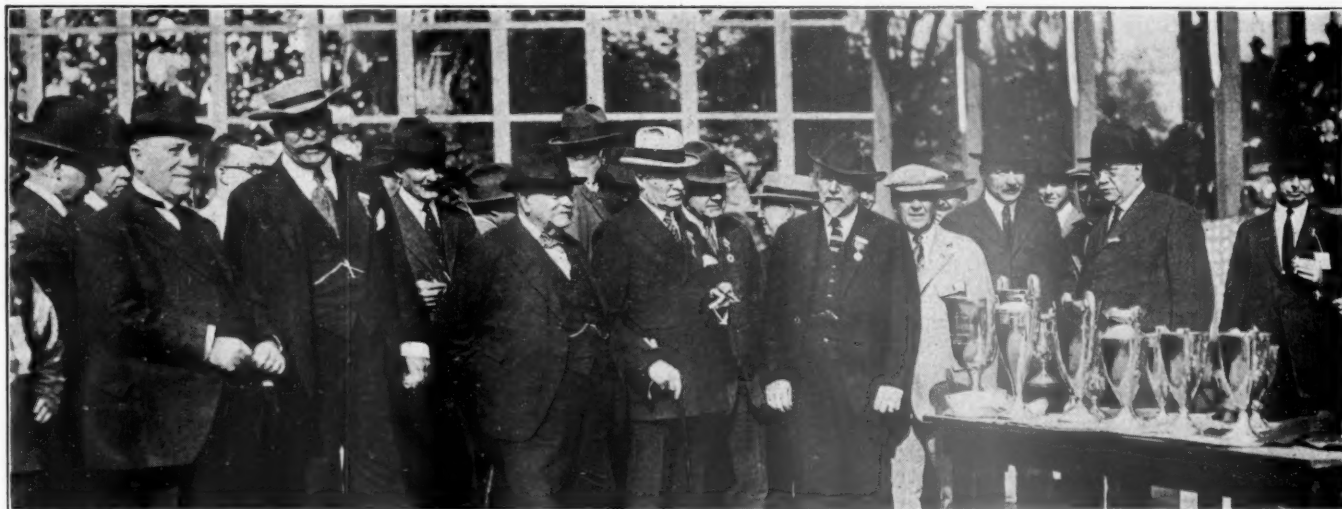
LOCOMOTIVES FITTED AND TO BE FITTED WITH CAR SIGNALS; TOTALS TO DATE

	August, 1922	Dec. 31, 1922	Dec. 31, 1924
Passenger	634	735	1,335
P. & F.	10	346	822
Freight .....	...	...	1,276
Switching .....	...	...	...
All classes	644	1,081	3,433

The contact bars (crocodiles) on the roadway are placed at distant signals only; and the number of distant signals equipped with bars at the end of August, 1922, was 1,077. This total will rise to 1,479 at the end of the present year, and up to more than 2,600 at the end of 1924, including every distant signal on all main lines and on the most important branch lines (about 3,000 miles).

When passing over the contact bar of a distant signal which is set against the train, an electro-pneumatic relay on the engine is energized; a pneumatic valve liberates steam so as to sound a larger whistle on the top of the cab, and, at the same time, a special tap is registered on the speed recorder. If the engineman, before passing over the contact bar, sees the visual set against him he must pull a small lever to register another type of special tap on the speed recorder, to show that he has seen the signal and has read it correctly. This arrangement is designed to keep the engineman watchful all the time; he must not depend upon the cab signal.

ONE OF THE SIX NEW superheated locomotives which have been put into operation on the Glasgow & South Western Railway (Scotland) during a trial run between Glasgow and Carlisle, attained a speed of 69 miles an hour with a load of 325 tons. The normal maximum load for a single engine on the section at which this speed was attained is 240 tons. The locomotives are of the Baltic type with six coupled driving wheels and a two-wheeled bogie at each end, and are 47-ft. 7-in. in length, with a weight of 99 tons.



President Rea (with cane) and a Group of His Associates on the Field Just Before the Awarding of the Prizes

Pennsylvania System Holds Third Annual Field Meet

The Breaking of Nine System Records Was Witnessed
by Employees from Thirteen States

THREE LARGE RAILROADS had developed system athletic programs in pre-war years, which culminated each year in system field meets—the Pennsylvania Railroad (Lines East), the Erie and the Missouri, Kansas & Texas. Naturally these were discontinued after our entry into the World War. The Pennsylvania System, after its reorganization following the period of federal control, inaugurated a system athletic program similar to that which had formerly existed on the Lines East; on Saturday, September 23, it held its third annual system field meet at Altoona, Pa. It was a tremendous affair; more than 700 athletes took part in the 35 events; 16 special trains, requiring about 180 passenger cars, brought visitors to Altoona from 13 states; in the afternoon the cricket field, surrounded by grand stands and forming a huge bowl, must have held at least 30,000 spectators; 12 employees' bands, distributed throughout the stands, added to the interest and excitement.

While this represented the climax of the season's efforts, it must be remembered that thousands of athletes had been in training during the season and had taken part in the preliminary events in the various localities, divisions and regions.

The really remarkable thing about the affair was that with the great influx of visitors and the complicated program with many events, there was little if any confusion. The

meet was so thoroughly organized and was so capably administered by those in charge of the actual carrying out of the program, that the schedules were closely adhered to. With all of the noise and excitement the best of order was maintained, both among the contestants on the field and the spectators in the stands. The crowd seemed to be particularly good-natured and the 150 uniformed Pennsylvania Railroad police gathered from all over the system, were mainly concerned in helping to make the visitors feel at home by courteously directing or otherwise helping them. Pickpockets and rowdies were notable for their absence and not an intoxicated man was seen during the day. The contestants and their backers showed the best of sportsmanship in spite of close decisions. The weather was perfect and the conditions ideal for making records.

It was necessary to carry on some of the events at a distance from the cricket field, which was the central point of the activities and only a comparatively short distance from the station and the business section of the city. For instance, the swimming events were held at the athletic field at Tyrone, Pa., a special train being required to take the contestants and spectators to and from Altoona. The men's tennis matches were held at the Altoona golf club, golf on the Blairmont Country Club course at Hollidaysburg, trap shooting at South Altoona, and rifle shooting at the East



A Close Finish

Altoona range. This rather widespread distribution of the events might have caused some inconvenience, had it not been that hundreds of the citizens of Altoona generously loaned their automobiles for the day. Prominently displayed signs in the vicinity of the railroad station indicated where automobiles could be found to take the visitors to the particular events in which they were interested.

The large number of special trains which were necessary required special provisions to relieve congestion at the Altoona station. Relief was afforded by having the visitors take their trains several blocks east and west of the station, depending upon the direction in which they desired to travel.

Plentiful traffic signs on buildings and street corners were posted for the direction of visitors. Moreover, special regulations for automobile traffic were put in force for the day and the local police were assisted by Pennsylvania employees in seeing that this traffic was properly directed on the important thoroughfares. The problem of feeding the visitors was relieved by the cordial co-operation of the various

Other events—circling bases, running high jump, running broad jump, shot put, quoits, horseshoes and tug-of-war.

Records Smashed

Nine system records were smashed, as follows:

100-yard dash (open), held by Garland of Harrisburg, :10 $\frac{3}{4}$; won by Eberts, Philadelphia, in :10, flat.

50-yard dash (girls), held by Pauline Kennedy, Pittsburgh, :07, flat, won by Schenkel, Philadelphia, in :06 $\frac{1}{4}$.

220-yard dash (open), held by Garland of Harrisburg, :23 $\frac{1}{4}$; won by Eberts, Philadelphia, :23 $\frac{3}{4}$.

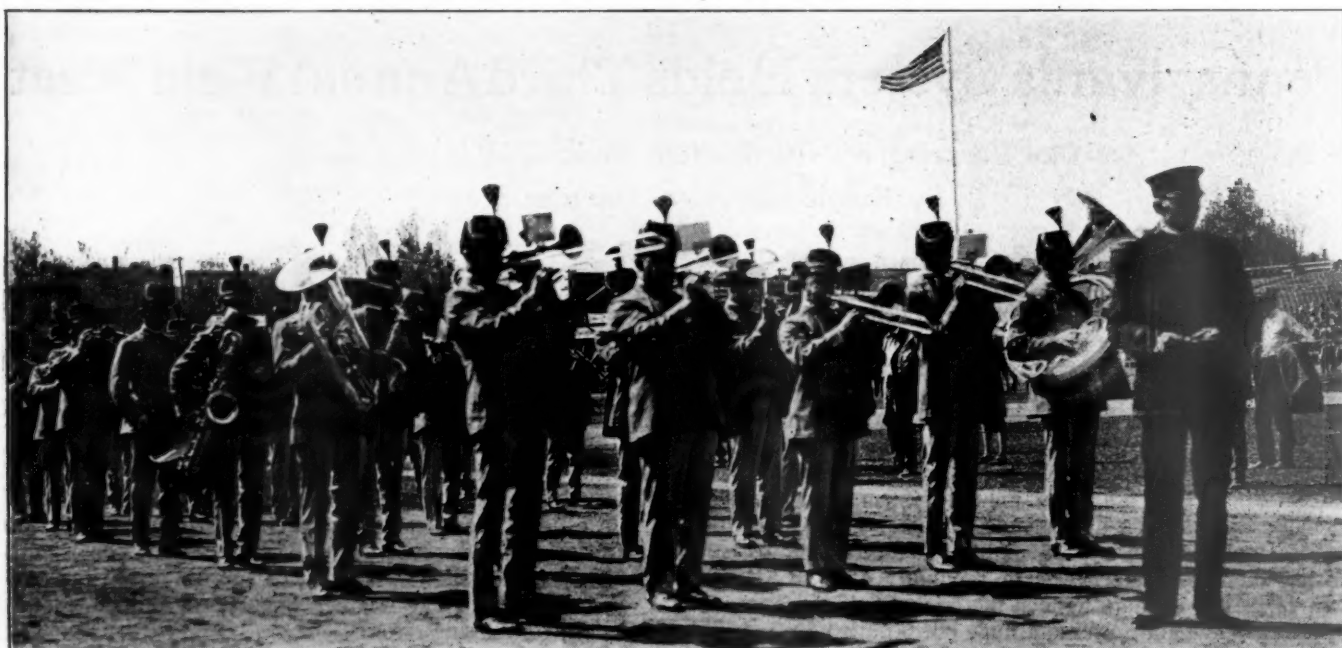
50-yard dash (girls' novice), record was :07; won by Zelda Murphy, Newport, in :06 $\frac{1}{4}$.

Circling bases, held by Plate, Baltimore, :15, flat; won by E. L. Maurer, Pittsburgh, in :14 $\frac{1}{4}$.

880-yard run (open), held by Poor, Harrisburg, 2:05 $\frac{1}{4}$; won by Kelly, Philadelphia, in 2:03 $\frac{1}{4}$.

440-yard dash, held by F. Trout, General Offices, :56, flat; won by Trout, Altoona Middle Division, in :52 $\frac{1}{4}$.

Mile run, held by Poor, Harrisburg, 5:00, flat; won by Siegmund, Harrisburg, in 4:46 $\frac{1}{4}$.



The Middle Division Band

churches and other organizations in providing lunches in the churches or other buildings, or in vacant lots near the cricket grounds.

Several emergency hospitals were provided near the athletic grounds and the railroad station. Comparatively few cases had to be taken care of, except at the athletic field, several of the athletes being overcome because of overexertion and the fact that the weather was more than ordinarily dry and bright.

The various events included the following:

Swimming—100-yd. (novice), 100-yd. (open), 220-yd. (novice), 440-yd. (open), plunge for distance.

Trap shooting, rifle shooting and golf.

Tennis—girls' singles, men's singles, women's doubles, men's doubles.

Track events—100-yd. dash (open), 100-yd. dash (novice), 220-yd. dash (open), 440-yd. dash (novice), 440-yd. dash (open), 880-yd. run (open), 880-yd. run (novice), mile run, mile relay. For boys: 50-yd. dash and 100-yd. dash. For girls: 50-yd. dash (novice), 50-yd. dash (open), 75-yd. dash, and quarter-mile relay.

Broad jump held by R. Juday, Ft. Wayne, 20 ft. 10 $\frac{3}{4}$ in.; won by R. Juday, 21 ft. 5 in.

Shot-put, held by P. Nesser, Columbus, 43 ft. 5 $\frac{1}{2}$ in.; won by Thurman, Baltimore, 46 ft. 6 in.

There has been considerable rivalry between the various regions; the Eastern Region, however, won over its competitors by a wide margin. The standing in points at the close of the meet was as follows:

	Points
Eastern Region	181
General Office (Philadelphia)	55 $\frac{1}{2}$
Central Region	55 $\frac{1}{4}$
Southwestern Region	31 $\frac{1}{2}$
Altoona Works	19 $\frac{1}{2}$
Northwestern Region	18 $\frac{1}{2}$

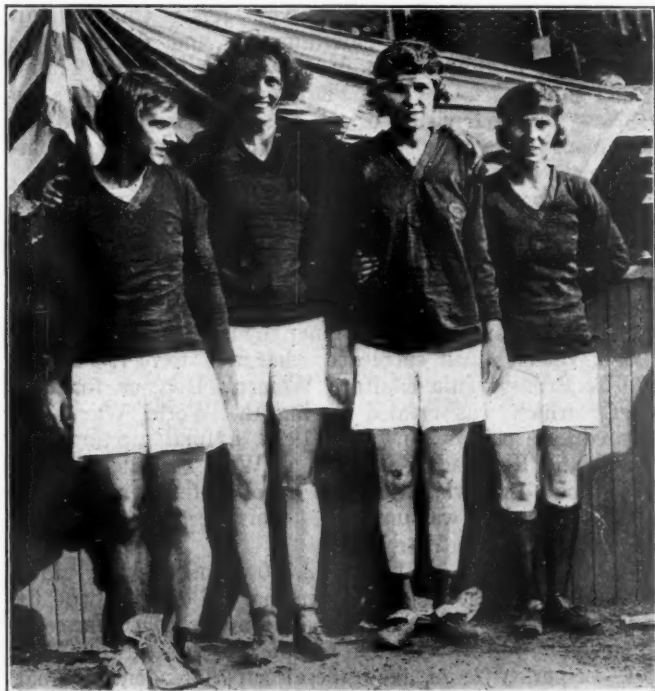
After the field events and before the baseball game President Rea personally handed the medals and trophies to the winners of the various events.

Base Ball Game

The final event of the day was the ball game between Altoona works and Fort Wayne; this was the first of a series

of three games to determine the system championship. The Altoona works had a good lead during the first eight innings. Fort Wayne rallied in the last half of the ninth and tied the score, 4-4. No runs were made in the tenth inning, after which the game was called because of darkness.

A progressive story of the field meet was wired direct from the top of one of the grand stands on the field to the important



Winning Team, Girls Quarter-Mile Relay Race. Represents Philadelphia General Office. Miss Betty Schenkle, Left, Also Won the 50 and 75-Yard Dashes for Girls

parts of the system. The newspapers generally in cities with many Pennsylvania System employees gave a generous amount of space to the event. The Pittsburgh Post, in particular, had several representatives at the meet and its profusely illustrated story in the Sunday edition covered several pages.

Coal Production

NORMAL PRODUCTION at the anthracite mines during the week of September 18-23 brought the total output of all coal, anthracite and bituminous, up to about 11,650,000 net tons, according to the weekly bulletin of the Geological Survey. This is still somewhat below the amount required to meet current consumption and lake shipments and at the same time to rebuild consumers' stocks.

The total output of anthracite during the first week after the strike was 1,064,000 net tons and during last week (the second following the strike) it was about 1,850,000 net tons.

Production of bituminous coal last week was estimated at from 9,600,000 to 9,900,000 tons, a slight increase over the week preceding. Loadings on Monday, September 18, were 37,330 cars, the highest since the close of the strike. On Tuesday, however, they dropped to 29,496, on Wednesday to 28,746, on Thursday to 29,483; on Friday to 27,396.

The present output is above that of the corresponding period of the year of depression, 1921, but is below that of the other years shown. The following statement gives production in the second week of September of the last five years:

1918	12,542,000	1921	8,187,000
1919	11,046,000	1922	9,661,000
1920	10,685,000		

The present condition of the coal market resembles the three years 1918 to 1920, more than 1921. In those three years, as now, demand for soft coal was active enough to absorb all the coal that could be transported.

Preliminary returns on daily car loadings at anthracite mines show remarkable speed in resumption of mining. During the first week loadings increased rapidly from less than 1,000 cars on the first day to a total of approximately 20,000 cars for the week. During the second week beginning with 5,179 cars on Monday, loadings increased to 6,767 on Wednesday, but dropped off to 5,912 according to preliminary returns for Thursday. The indicated total for the second week is about 35,000 cars, which compares favorably with the weeks immediately following the "miners' vacation" in the fall of 1920. The average weekly rate before and after the vacation was approximately 36,000 cars with a maximum in the week of October 23, 1920, of 37,300 cars.

The cumulative production to September 16 this year is 23,325,000 tons; with an estimated production of 1,850,000 tons last week the total output to date is approximately 25,175,000 tons as against 67,759,000 tons in 1921. The present year is about 42,589,000 tons behind last year.

The all-rail movement of soft coal to New England through the six principal Hudson gateways increased to 3,009 cars, and of anthracite to 438 cars, in the week ended September 16. In addition there were also shipped through Rouses Point 21 cars of bituminous coal in the week ended September 9, and 69 cars of bituminous and two of anthracite in the week ended September 16.

Statistics collected by the Massachusetts Fuel Administration give the quantity of anthracite received in New England in the present calendar year to August 31 as 3,345,000 net tons, against an average of 7,700,000 in corresponding periods of the six years preceding.

Receipts of bituminous coal from January to August, inclusive, this year were 10,805,000 net tons as compared with 11,020,000 tons in the same period of 1921, and with an average of 14,880,000 tons for the corresponding periods in the six years preceding. The bituminous coal trade this year is notably different from other years in that a larger part of the supply came from tidewater instead of by rail.

Shipments of bituminous coal through Hampton Roads in the week ended September 16 increased slightly over the previous week, but remained as for several weeks past, at about 300,000 net tons. Dumpings for the week totaled 307,426 tons as against 298,697 tons in the week before. Cargo coal for export and for New England decreased whereas coal for other coastwise destinations and bunker coal increased.

The movement of soft coal up the lakes from ports on Lake Erie finally touched the million-ton mark in the week ended September 17. Final returns have not yet been received, but preliminary daily reports on cars dumped indicate an increase of 71 per cent over the week preceding, when the piers handled 683,000 tons of cargo coal and 35,000 tons of vessel fuel, a total of 718,000 tons.

A further increase marked dumpings of lake coal during last week. The total handled at the piers on the three days September 18 to 20 showed an increase of 59 per cent over the corresponding days of the previous week. This indicates that lake coal is now going forward at a rate close to the maximum of any time in the past.

The total cargo dumped from the beginning of the season to September 17 was in round numbers, 7,000,000 tons. This was 10,100,000 tons behind 1921, and even 6,170,000 tons behind 1920, when, as now, priority was given to coal shipped to the lakes.

Final statistics of production as reported to the Geological Survey by the bituminous operators show 415,921,000 net

tons in 1921. The Survey's preliminary estimate, published January 7, 1922, was 407,000,000 tons. The error in the estimate was thus 2.2 per cent. These figures are exclusive of the output of country banks and of some wagon mines. They include, however, many small operations that fall within the definition of wagon mines but that operate steadily year after year. The tonnage not included would amount to little in a year of acute depression such as 1921. Were statistics available for the small mines not included, the total output would be raised by not much over 1,000,000 tons.

Contrary to what might have been expected, the number of employees increased in 1921. There was less work but more men to share it. The total employed at bituminous mines was 663,754—an increase of 24,000 men. This figure is not the average number of men at work at any one time, including the weeks or months when the mine may have been shut down; it is rather the number of men on the working force of the mine when it was in operation. Since the effect of the business depression upon the demand for coal did not become acute until February or March, the great majority of commercial mines got at least a few weeks' operation during the year, and their working forces were thus counted in the total number of employees. By August, 1921, so many mines had closed down that the total number of men drawing wages in one week had fallen to somewhere between 500,000 and 520,000. Examination of the individual returns shows that in many districts the men laid off at small mines found employment at the larger mines. In fact, in some districts, such as Illinois and Pittsburgh, the coal mines absorbed men discharged by the factories or railroads.

The increase in number of employed was confined to the tonnage workers. The number of day-men decreased in almost every state. The total number of surface employees dropped from 110,000 to 96,000, and of underground day-men from 174,000 to 168,000. This shift in occupations reflected, no doubt, the intense competition of a depressed market, as operators sought to eliminate all expenditures not contributing immediately to the mining of coal.

The later revised figures based on complete reports for the week from the railroads indicate a total production of 11,500,000 tons of coal, of which about 10,000,000 tons was bituminous and 1,840,000 was anthracite. The total coal loading for the week was 212,110 cars, or 16,968 cars over the preceding week. Loading on Saturday was 24,756 cars of bituminous and 5,588 cars of anthracite. However, the loading during the last two days of the week was less than it had been during the corresponding days of the week before.

More coal was transported to Lake Erie ports for transshipment up the lakes during the four days ending with Sunday than in any corresponding previous period. An average of 4,081 cars was received and dumped daily. The railroads are now transporting to Lake Erie points considerably in excess of 1,000,000 tons of coal a week, the average fixed by the federal fuel distributor as the amount that should be received at the lake ports to insure an adequate supply in the Northwest this winter. For the week ended Saturday 27,959 cars carrying 1,400,000 tons were received. During the week before the receipts were 21,431 cars and during the first nine days of September 16,688 cars. As a result of the increased movement last week the railroads have not only made up for lighter shipments earlier in the month, but have brought the weekly average to more than 1,100,000 tons. Reports received by the Car Service Division on Tuesday indicated that by the close of Wednesday this week 1,074,000 tons of coal would be received at Lake Erie ports.

It was announced at the White House on Tuesday that reports received by the President indicate that coal is being dumped at the lakes in excess of the ability of the lake carriers to transport it and that while there will be some shortage of coal this winter the situation is being relieved beyond expectations.

The Pennsylvania Women's Aid

THE WOMEN'S AID of the Pennsylvania Railroad System was described in the *Railway Age* of April 15 last, and in the issue of June 24 there was a notice of its extension to the Northwestern region. The membership has been increased so that now the New Jersey Chapter alone has 10,236 members, and the eastern and central regions together more than 50,000. The New Jersey Chapter will have its second annual entertainment and dance at the Seventy-first Regiment Armory, New York City, on Thursday evening, October 12. The number of employees on the New Jersey Division of the road is more than 26,000 and among these men several thousand tickets for the entertainment have already been sold.

The "Women's Aid" is composed of the wives and daughters of Pennsylvania railroad officers and employees. It is an organization "to organize the women of the families connected with the Pennsylvania Railroad, so that they may know each other, and when occasion may require, to render aid and sympathy in such a manner as may be most helpful."

The Women's Aid succeeded what was formerly known as "The Pennsylvania Railroad Women's Division for War Relief," which was created during the World War as a preparedness society. In July, 1920, a final meeting was held in the Railroad Y.M.C.A. at West Philadelphia, at which time a memorial tribute in honor of the Pennsylvania Railroad hero dead was unveiled. This meeting marked the end of the Women's War Relief.

During the year 1921 over 2,200 families were aided financially and otherwise, and personal calls were made by members upon no less than 11,547 families of employees.

The New Jersey Division Chapter is headed by Mrs. C. I. Leiper, wife of the general superintendent of that grand division. The workrooms at the Pennsylvania Station, New York, constitute the center of activities for New Jersey. Here the members meet each Wednesday and make garments for babies, small children and others left in temporary need through illness or death. Funds for this work are raised primarily from entertainments and by voluntary contributions, as the dues of members are only 25 cents a year. Monthly meetings are held the first Wednesday of each month in the Y.M.C.A. auditorium at the Pennsylvania Station in Manhattan. These meetings have been very enjoyable, promoting the "family feeling" to a marked degree.

A report of ten cases of assistance recently rendered by the New Jersey Division Chapter contains the following:

Case No. 1.—The wife of a freight trainman was sent to the hospital. Her board, nurse and all expenses were paid, including those incident to a serious operation. Visits were continually made to the family, and donations of money extended until the patient was released from the hospital. This woman has now fully recovered.

Case No. 2.—An employee of the master mechanics department was given financial assistance when his child was killed by an automobile, in addition to which suggestions were offered from a legal standpoint.

Case No. 3.—Monthly milk bill is being paid for the widow of a former employee.

Case No. 4.—Flowers were sent to a sick employee of the ticket office.

Case No. 5.—Rent is being paid and monthly allowance given to the family of a ferry employee who was seriously injured.

Case No. 6.—Three months' rent and an allowance extended to a pensioned employee.

Case No. 7.—Six months' rent paid for an employee who is hopelessly ill.

Case No. 8.—A committee has been formed to assure proper recreation being extended to the paralyzed wife of a machinist.

Case No. 9.—An employee of the master mechanics department was extended financial assistance; also large box of provisions and groceries sent to his family, in addition to which arrangements were made to send the entire family—father, mother and daughter—to the country in an endeavor to have them regain their health.

Case No. 10.—An employee who died recently, left a wife and a three-days' old baby, without adequate means of sustenance. His wife is receiving a weekly allowance, which will be continued for at least one year.

Mrs. W. W. Atterbury, wife of the vice-president (in charge of operation) of the Pennsylvania Railroad System is director of the "Aid" for the entire system.

Federal Court Sustains Daugherty Injunction

Judge James H. Wilkerson's Ruling Upholds Government's Charges—Employees to Appeal Case

IN AN EXHAUSTIVE opinion, buttressed with many Supreme Court decisions, Federal Judge James H. Wilkerson on September 23 sustained all of the provisions of the Daugherty injunction restraining striking railroad shopmen throughout the country from committing any acts which might be interpreted as interfering with interstate commerce. At the same time the court denied the motion entered by Attorney Donald H. Richberg, counsel for B. M. Jewell and John Scott, president and secretary, respectively, of the Railway Employees' Department of the American Federation of Labor, for dismissal of the temporary injunction granted September 1 on the petition of Attorney-General H. M. Daugherty.

Not one scintilla of evidence, the court held, had been presented by the defendants to refute or deny the abundant proof produced by the government of a nation-wide sabotage plot to destroy commerce. In ruling that any acts committed in furtherance of this alleged conspiracy, whether lawful or unlawful in themselves, might be restrained, the court upheld those provisions of the temporary injunction declared by the strikers to be an abridgment of their constitutional rights of free speech, writing, and assemblage.

In regard to the provisions of the injunction which the defendants complained of as curtailing constitutional rights, Judge Wilkerson said:

"It is asserted by the defendants to permit some of the acts against which the complainant seeks an injunction is to deprive them of fundamental rights guaranteed by the constitution. This contention has been answered by what has been said with reference to the unlawful purpose of the conspiracy.

"A cardinal error of defendants' position, to use the language of the Supreme Court, lies in the assumption that 'the right is so absolute that it may be exercised under any circumstances and without any qualification; whereas, in truth, like all other rights that exist in civilized society, it must be exercised with reasonable regard for the conflicting rights of others.'

"The record in this case shows that the so-called peaceable and lawful acts are so interwoven with the whole plan of intimidation and obstruction that to go through the formality of enjoining the commission of assaults and other acts of violence and leave the defendants free to pursue the open and ostensibly peaceful part of their program would be an idle ceremony."

In the preamble of his opinion, Judge Wilkerson reviewed the bill of complaint filed by the government and the vast amount of documentary evidence introduced in support of Attorney-General Daugherty's contention that a nation-wide plot existed to wreck trains, intimidate workmen and cripple rolling stock.

"In disposing of this motion," the opinion reads, "it may be well at the outset to emphasize what this case is not. It is not a case between an employer and employees, or between employers and employees, or between persons employed and persons seeking employment, involving or growing out of a dispute concerning terms or conditions of employment. It is not a private bill to enjoin indirect injury, as one caused by a secondary boycott, to the property of the complainant.

"It is, to use the language of Circuit Judge Baker, 'in the public interest by the government as *parans patriae* to enjoin an unlawful conspiracy or combination in restraint of trade.' It is the conspiracy which is inflicting the public injury for which redress is sought.

"The right of the United States to maintain a bill like this under its general equity jurisdiction is no longer open to debate. In the Debs case the court held that the national government is charged with the duty of keeping the highways of interstate commerce, including railroads, free from obstruction."

The Application of the Clayton Act in This Case

Judge Wilkerson quoted various authorities to refute the contention of the defense that the power of the courts to deal with combinations such as Attorney-General Daugherty charges exist has been curtailed by certain provisions of the Clayton act.

"The law is clear," the court continued, "that if the dominating primary purpose of the combination is to restrain trade, or to do things unlawful in themselves and which by reason of their inherent nature operate to restrain trade, the purpose of the combination is unlawful, and that purpose may not be carried out, even by means that otherwise would be legal.

"In cases of this kind the proof is of necessity largely circumstantial. Acts must be taken in their relation to each other. Men must be presumed to intend the natural consequences of their acts. Proclamations of non-participation and exhortations to keep the peace cannot relieve from responsibility for a series of acts so interrelated and interwoven that they bear on their face proof of design and plan."

Judge Wilkerson referred to the fact that not one of the defendants in testifying answered the government's bill of complaint.

"Two have filed motions to dismiss," he said, "and have presented affidavits which leave a large number of averments of the bill unchallenged on the record. The fact that the defendants have been acting in combination is not denied.

"On the contrary, the defendants themselves have produced evidence of the closest association and co-operation on the part of the defendant organizations. That the officers of the unions gave directions concerning the strike from the outset is likewise admitted. The only material question really in dispute on the record is the responsibility in law of the defendants for the large number of unlawful acts shown to have been committed, the most of them by unknown parties.

Judge Cites "Reign of Terror"

"Notwithstanding the warnings against acts of violence set out in the instructions of June 27, 1922, there began throughout the country a series of depredations which rapidly developed, on some portions, into a veritable reign of terror. Railroad bridges were dynamited, spikes were removed from rails, obstructions were placed upon railroad tracks, bombs were exploded on tracks and in railroad yards and hurled at moving trains.

"Regardless of the instructions that no injury must be inflicted upon property, there was sabotage on a large scale. Engines, cars and equipment were tampered with, and innumerable acts of malicious mischief committed which endangered the lives of both passengers and those operating trains.

"These unlawful acts are shown to have been on such a large scale and in point of time and place so connected with the admitted conduct of the strike, that it is impossible on the record here to view them in any other light than as done

in furtherance of a common purpose and as part of a common plan.

"This record does not permit the conclusion that those who are at the head of this combination did not actually know that these things were being done, and that they were the direct result of the methods by which the strike was being conducted. And if they did not actually know, they were charged with such knowledge."

Judge Wilkerson quoted two communications sent out by the strike leaders on Aug. 28, urging the men to continue to fight this "industrial war" with other methods than "kid gloves" and "soft talk."

"These defendants will not be permitted, upon the record here, to deny responsibility for these unlawful acts," the court continued. "They will not be permitted to continue acts which, even though they may be peaceable and lawful in themselves, it has been demonstrated, are only a part of a program of unlawful conduct and are done for the accomplishment of an unlawful purpose."

"Defendants assert," the court continued, "as a ground against the granting of the relief sought by the complainant, that the strike was a defensive measure against a plot of the railway companies to destroy the unions. The argument seems to be that the defendants are justified in inflicting upon the public any injury which it may be proper for them to inflict upon their adversaries in this conflict."

"It must be remembered, however, that this is a suit brought for the benefit of the public. Restraint of trade may not be adopted as a weapon in industrial warfare. The court must act upon the case now before it and give its aid to the removal of the obstructions to commerce which are found to exist."

Judge Wilkerson then referred to the motion presented by Attorney Richberg to dismiss the bill on three grounds, the first two attacking the sufficiency of the bill and the third charging that the relief sought "was obtained for ulterior and unlawful purposes upon misrepresentation and suppression of matters of fact and law, the disclosure of which was required by good faith."

"During the hearing, which has lasted almost two weeks," the court resumed, "the defendants have neither offered nor suggested a scintilla of proof tending to establish this averment in the motion to dismiss. The restraining order was entered after a hearing at which both the averments of the bill and the questions of law involved were fully and fairly presented. It follows, therefore, that the motion to dismiss the bill must be denied."

Federal Judge Enters Formal Injunction Order

Judge Wilkerson on September 25 formally entered the temporary injunction sought by Attorney-General Daugherty. Except for a few minor changes the judge put into effect without modification the draft submitted by the attorney-general.

Immediately following the court's action, attorneys for the shopmen suggested the hearing on the final restraining order be held before three judges of the Circuit Court of Appeals because of the importance of the case as a legal precedent. This plan calls for the filing of a certificate by the attorney-general stating that the case is of supreme public importance and is based on a precedent established in 1903. This certificate then gives the case precedence over all other business before the court. Judge Wilkerson said he had no power to expedite the hearing as suggested, but Blackburn Esterline, assistant solicitor-general, promised to submit the proposal to Attorney-General Daugherty at once.

Respecting the form of the final order, Mr. Richberg refused to make any suggestions. He left a statement with Judge Wilkerson in which he contended that he could make no suggestions as to the form or wording of the order, a move which in his opinion would lend sanction to what he regarded as an unlawful ruling.

The final appeal for the granting of the temporary injunction was made by Attorney-General Daugherty himself, who, appearing before the court unexpectedly on September 21, said:

This order does not question the right of a man or any number of men to strike, but it restrains from the unlawful right to strike back. The enforcement of this decree will not deprive any man of any lawful right. On the other hand, it will afford protection to every man and to all men equally who come within its operation in each and every lawful right.

The law of this country, as applicable to cases of this kind, where transportation and the carriage of the mails are involved, is somewhat different from the law where so-called industrial disputes and strikes are involved. It is the duty of the Government to compel railroads to furnish transportation. If the railroads for any reason are not able to do so because of interference, it is the obligation of the Government to step in and prevent any and all interference.

The life of industry, human life, the life of the Government itself, depends upon industrial peace, and industrial peace depends upon uninterrupted interstate commerce and the transportation of the mails. In case of aggravated and unlawful interference with transportation, when the railroads on account of circumstances conclusively proven to have existed in this case are interfered with, what can the Government do?

First, the Government can, as in this case it did, call on all persons responsible for the interference to cease and desist from interference. That failing, as it did fail, the Government must decide promptly whether it will resort, as it did in this case, to civil proceedings for an injunction to restrain those who persisted in the interference.

Secondly, the Government can step aside supinely in disregard of its duty, thereby contributing to the continuation of the interference and inviting every criminal act destructive of human rights, of property, of life, and of transportation, and let those who bear the torch and hold the dagger proceed in the commission of such crimes against life, property, liberty and government.

That would have involved years of prosecution, and encouraged men to violate the law. It would have encouraged depredations which no civilized country and no Christian people will tolerate.

Third, the Government could call for troops and legally mow down and kill—how many? Nobody knows, how many American citizens!

Fourth, the Government could have adopted a policy of innocuous complacency and let anarchy reign and the mob rule.

Attorney-General Calls Court Decision

Victory for Government

In commenting on the ruling Mr Daugherty said:

The decision was a complete and clear cut victory for the Government. It settles the law with respect to strikes which affect the transportation of passengers and property in interstate commerce and the mails. The Government will see to it that any decree entered in pursuance of the decision shall be adhered to. It will also see to it that, as quickly as possible, the railway companies shall comply with the acts to regulate commerce, and any decision or orders of the Interstate Commerce Commission with respect to service or equipment, as well as all decisions of the Railroad Labor Board relating to wages or working conditions.



Erie Piers 20 and 21, New York—Where Practically All Pacific Coast Perishables on the New York Market Are Auctioned Off Each Day

Railroads Oppose Reduced Rate Mileage Book

Would Reduce Revenues and Unduly Discriminate Against Ordinary Traveler

WASHINGTON, D. C.

THE ISSUANCE of interchangeable mileage tickets or scrip coupon books at rates below the prevailing rate of passenger fare was opposed by representatives of the railroads at a hearing before Commissioner Meyer of the Interstate Commerce Commission at Washington on September 26 and 27. Commissioners Cox and Lewis, Chief Examiner R. E. Quirk and M. O. Lorenz, chief statistician of the commission, also sat with Commissioner Meyer. The law recently passed by Congress directs the commission to require the issuance of interchangeable mileage or scrip coupon books "at just and reasonable rates" and to prescribe rules and regulations therefor, but authorizes it to exempt any carrier in whole or in part where particular circumstances justify it. The commission has instituted a proceeding of investigation with a view to the issuance of such order or orders or other requirements as may be proper and necessary to carry the act into effect. At the outset H. W. Bikle, who appeared as counsel for the railroads, stated that the carriers desire to reserve the right to contest the constitutionality of the law or of any order the commission may issue.

C. A. Fox, chairman of the Central Passenger Association, presented a general statement on behalf of 168 roads, operating 225,000 miles of line, and including 149 Class I roads and 19 Class II roads, in the form of answers to seven questions propounded by the commission in announcing the hearing. He was followed by W. P. Rose, auditor of passenger accounts of the Southern Railway, who described in detail the additional accounting that would be required if a reduced rate mileage or scrip book were placed in effect. He estimated this additional accounting expense at \$1,680,000 per annum. A large number of roads, principally short lines, also presented testimony in behalf of their applications which have been filed with the commission for exemption from the provisions of the act.

An abstract of Mr. Fox's statement follows:

No Advantage in Sale of Both Mileage and Scrip

"There is no public advantage in the sale of both mileage and scrip tickets. The present forms of scrip coupon tickets, now issued generally in \$15, \$30, and \$90 denominations, fully meet the requirements of the new law, although such forms of tickets have never been satisfactory to the carriers.

"These scrip books are equivalent to currency, coupons being detached to cover the value of transportation furnished at normal one-way fares. The coupons are accepted by conductors on trains; but, if holder desires to travel between two competitive points, by a carrier or carriers whose distance is longer than the direct or short line, coupons of value equivalent to the through fare via the direct or short line are detached by the ticket agent, and a passage ticket of ordinary one-way form is issued in exchange therefor. The coupons are also accepted for baggage charges (excess weight, excess size, excess valuation, storage and transfer).

There is not a convenience or advantage accruing from the use of mileage tickets that will not be more completely and satisfactorily taken care of, both from the view point of passengers and of the carriers, in the existing forms of scrip books. On the contrary, there are complications and additional expense inseparable from mileage tickets avoided by the use of scrip books. Where rate levels vary, as they do over considerable mileage in different sections of the United States, it would be necessary, if mileage tickets were used, to detach sufficient additional coupons to properly compensate those carriers honoring the ticket, having fares in excess of

the basic fare of 3.6 cents per mile, which applies more generally throughout the country.

"The detachment of additional coupons, which represent miles, as applied to a book intended for general interchange between substantially all carriers would make the compilation of covering tariffs involved and expensive. Formerly, where mileage tickets were in use, they were accepted only for passage over individual carrier systems, or, in districts of comparatively small area; or, where the mileage tickets were of joint interchangeable character, good over a number of roads, they were generally restricted in use to the individual systems, with only limited provision for interline application. While it was feasible thus to utilize a mileage ticket good over a single system or a small territorial region, and to compile distance tables, which frequently required computations by both agents and conductors to add two or more distances together to arrive at the total through detachment, it would be impracticable to so apply a mileage ticket for nation wide use. A mileage ticket available for local, inter-division and interline use generally throughout the country, to the same extent as the present scrip books are honored, would have to be supported by underlying distance tables practically equivalent in number of tariffs and in number of pages in such tariffs, to the present system of conductors' and ticket agents' local, inter-division and inter-line tariffs applicable to one-way tickets at normal fares. While the individual carriers now have abbreviated tables of distances, at least between the more important points on their systems, such tables would not meet the requirements of a nationwide interchangeable mileage ticket.

"As users of scrip books could in no conceivable way derive a greater benefit from a mileage ticket, as distinguished from a scrip ticket of like scope, it is believed that the few foregoing principal objections to mileage tickets should be convincing that a mileage ticket of any type is an unsatisfactory form of ticket, and should not be re-introduced.

"Furthermore, as scrip represents currency, it automatically adjusts itself to any revisions in the basic fare for ordinary tickets that may occur, upward or downward, with no advantage or disadvantage to the holder of the scrip or the carrier."

Should Be No Reduction in Fares

The carriers contend there should be no reduction in fares. The present interchangeable scrip ticket meets all requirements as far as the varying rate levels are concerned.

The present bases of freight rates and passenger fares and charges were fixed by the Interstate Commerce Commission after extended hearings and investigations to determine the revenue which should be realized from the freight and passenger transportation respectively to enable the carriers to perform the service to which the public is entitled, and to yield the net return to the carriers as provided in the Transportation Act. It must, therefore, be assumed that such fares are just and reasonable, as there have been no developments since the date of the commission's order justifying a change, as indicated by the Commission's recent review of the general rate situation.

At no time since the passage of the Transportation Act have the carriers as a whole earned the net return contemplated by that act. Any form of reduced rate mileage or scrip ticket good for nation-wide use on all the railroads of the country will inevitably result in a substantial reduction in passenger revenues, the extent of which will vary accord-

ing to the percentage of reduction from the one-way fare, and the denomination of the ticket. It is practically impossible to accurately estimate the amount of this reduction, because there has never been a reduced rate ticket which was good for use on all roads throughout the entire country. If such a ticket be introduced, a great proportion of the one-way travel between large commercial centers such as Chicago and New York, New York and New Orleans, Chicago and Denver, San Francisco, etc., and theatrical, Chautauqua and other similar traffic will be quick to take advantage of such a ticket. In other words, the larger the scope of territory in which the ticket can be used, the greater will be the inroads upon the passenger revenue of the carriers.

The gross passenger revenues for the year 1921 were \$1,152,635,016. The estimated passenger revenues for the year 1922, based on I. C. C. reports for the first six months, will be \$1,070,167,869, or a prospective decrease of \$82,467,147. These passenger revenues include commutation and surcharge, but exclude mail and express for both years. This showing results in the face of the wiping out of the war tax January 1, 1922.

Some years ago, when mileage tickets were in effect and reductions in various degrees from the basic rate per mile were accorded in different parts of the country, even though such mileage tickets were restricted to smaller territorial limits and were not interchangeable as between all lines in the same territory, an average of not less than 20 per cent of the total passenger revenue in certain sections of the country was derived from mileage tickets; in fact, on some lines as high as 60 per cent of the total passenger traffic was moved.

Confirming these statements, the record shows that for the fiscal year ending June 30, 1917, in Southeastern territory a major portion of the traffic moving between principal commercial centers traveled on mileage tickets.

It is apparent that any reduced rate mileage or scrip ticket will practically supersede the normal one-way fares between all commercial centers of the country, materially reducing the present aggregate revenues which do not now meet the necessity of the carriers, nor the expectation of the commission from a revenue standpoint in their recent general rate investigation.

Another inequitable and discriminating feature of a reduced rate scrip or mileage ticket would be that in view of the long distance covered by journeys in this country, under almost any priced book so far suggested, it would be possible by the use of a scrip book, and with practically the same initial investment, to accomplish a one-way journey between two given points at a less cost than by purchase of a regular one-way ticket, thus producing either a discrimination or a reduction in the one-way fare. The lower the price of the book, the more cases of this kind would be produced.

The cost of handling passengers on reduced mileage or scrip tickets will exceed considerably the cost of performing service for a passenger paying the normal fare and using the ordinary form of one-way ticket, and it is not clear how it can be justifiably concluded that, when the present normal basic fare has failed to produce the results anticipated by previous decisions of the commission, a mileage or scrip ticket sold at a fare below such normal basic fare per mile can be construed as either just or reasonable.

Answer to Arguments Advanced

by Commercial Travelers

It has been contended that the purchase of a mileage or scrip coupon ticket involves the wholesale principle, the denominations commonly mentioned being not less than 3,000 nor more than 5,000 miles. In support of this, reference has been made to the fact that a lower freight rate is made for carload shipments than for less than carloads. This comparison is faulty; the difference is not confined to

a difference in pay for the service; the cases are not analogous. The rate per hundred pounds is less to move freight in carload lots than to move it in less than carload lots for the obvious reason that the L. C. L. load is composed of a number of shipments involving greater expense in handling and accounting than shipments by carload; for example, carload shipments are loaded and unloaded by the consignor and consignee. Therefore, it is fair and reasonable to fix the carload rate at less than the L. C. L. rate, but there is no reduction in the carload rate on account of the number of carloads shipped, and the commission has opposed every effort to have the principle of a lower rate for a number of carloads than for a single carload.

With mileage or scrip books performance of service is clearly a retail process. A ticket contemplated to cover 5,000 miles would be used for numerous trips. While payment for these trips would be made in advance, the trips would be spread out over the lifetime of the ticket. Each such trip is a separate, complicated transaction involving ticket agents, conductors and ticket accounting departments in a very large amount of additional detail and labor compared with single tickets sold at normal fares. This extra expense for additional employees in auditing and ticket offices and on trains would amount approximately to \$1,680,000 annually, which will be explained by the accounting witness who will testify later.

To sum up briefly, the effect of the proposition would be to accord a lower rate to a class of passengers more expensive to handle.

A mileage or scrip ticket sold at a reduced fare would be used between a multiplicity of points within a given period at a preferential fare as against the passenger who travels between the same points, on the same train, in the same car, and in the same seat. Such reduced rate mileage or scrip ticket would impose on the carriers an expense greater than in the case of the passenger holding one-way ticket at normal fare, and to this extent is a discrimination rather than an observance of the principle involved in the construction of carload and L. C. L. freight rates. In fact it would be a direct reversal of the principle applied to freight.

It has been alleged that carriers would derive substantial benefit from the use of the money paid in advance for mileage or scrip books, on which service would not be performed for a considerable time after purchase. A fund created in this manner would be divided into comparatively small totals among the large number of selling carriers. These sums would be constantly changing balances, subject to innumerable withdrawals on account of claims for partially used tickets returned by purchasers for redemption, and subject to hundreds of monthly settlements between roads for coupons of books honored by foreign roads. Of the total mileage revenue only a comparatively small per cent would remain constantly in the possession of the carriers as a daily average balance.

Mileage Tickets "Pernicious and Unbusinesslike"

It has been uniformly recognized by the railroad managements since the inception of mileage tickets that they were the most pernicious and unbusinesslike form of transportation in use, because of their discriminatory character and susceptibility to all kinds of irregularities and manipulations. It was impossible for various reasons for the carriers as a whole to abolish the use of mileage tickets, nevertheless there was a constantly growing restriction in their use to the extent that it was within the power of the carriers to so limit them. Conditions changed when the carriers were operated as a unit by the United States Railroad Administration, and recognizing the discrimination and irregular manipulation of mileage tickets, the carriers were ordered to discontinue them.

The United States Railroad Administration, having ac-

completed during the period of federal control what the carriers themselves were unable to accomplish prior thereto, the carriers did not, upon the return of the properties to private operation, reestablish the mileage ticket at a reduced fare, and are strongly opposed to it at the present time.

Any reduction in the basic fare which may be imposed upon the carriers through the installation of a mileage or scrip ticket below the normal fare will deplete the present passenger revenues, and it is the consensus of views that a reduced rate mileage or scrip ticket will not increase the traffic to an extent offsetting the reduction in revenue. The carriers apprehend that a reduced rate mileage or scrip ticket would have a material effect upon the normal basic fare, and desire to call attention to the fact that the reduced mileage fare previously in effect was one of the chief arguments and reasons why the several states forced upon the carriers a reduction in the intrastate one-way fares.

In 1907 the legislatures of a number of western states passed what are commonly known as "two-cent fare acts," reducing passenger fares from three cents to two cents per mile. In the case of one large western railroad (which was the common experience of other roads), passenger fares were reduced in 1907 from three cents to two cents per mile on 75.79 per cent of its total mileage. Notwithstanding the reduced fare, the total number of passengers carried during the fiscal year ended June 30, 1908, increased only 2.16 per cent over the number carried in the preceding fiscal year when the basic rate for passenger fare was three cents per mile.

In April, 1914, the passenger fares on the same lines in South Dakota were reduced from three cents per mile to two and a half cents per mile, a reduction of 16.66 per cent. Notwithstanding that substantial reduction, the number of passengers carried one mile intrastate in South Dakota for the three months immediately following the reduction decreased 3.42 per cent, as compared with the corresponding months in the previous year in which the rate of three cents per mile was in effect.

Further substantiation is furnished by the experience of one of the Southeastern carriers, which also operates in a portion of the territory north of the Ohio river. In Illinois passenger fares were reduced from three cents to two cents per mile, effective July 1, 1907, but the operations of the carrier in question for the last six months of the calendar year 1907 (the first six months after the reduced rate became effective), compared with the last six months of 1906 (when the rate was three cents), showed that while the number of passengers carried in Illinois increased 7.13 per cent, there was likewise an increase in the number of passengers carried by that same carrier in other states where the passenger fare had not been reduced, i. e., in Tennessee, an increase of 19.71 per cent, in Alabama 9.82 per cent, in Georgia 23.67 per cent, and in Florida 14.21 per cent.

Using the experience of this same carrier for further illustration, passenger fares on its lines in Alabama were reduced from three cents to two and a half cents per mile, effective June 1, 1909, but its fare in Georgia remained at three cents per mile. Comparing the nine months' period ended February 28, 1910, with the nine months' period ended February 28, 1909, the number of passengers carried by it in Alabama showed an increase of 12.52 per cent, while in Georgia, with no reduction in the basic rate, the number of passengers carried by it increased 13.45 per cent, and the revenue results for these same periods showed a decrease of 1.35 per cent in Alabama, and an increase of 12.24 per cent in Georgia.

If mileage tickets at a special reduction are sold to the general public, past experience demonstrates that theatrical companies, circuses, concert companies, bands and other public entertainments, and other organized traffic, will demand like special class legislation for their transportation.

Wherever a reduced mileage rate prevailed, the traveling public to a considerable extent could not be convinced that the same basis should not prevail for all regular passenger travel. The pressure was always for a downward revision.

The carriers have repeatedly asserted that a reduction in the basic fare through the sale of reduced rate mileage or scrip tickets, or otherwise, would not appreciably stimulate traffic. An outstanding proof of this is furnished by the withdrawal of the war tax of 8 per cent of the transportation charges, effective January 1, 1922. The cancellation of this charge was equivalent to making a horizontal reduction in passenger fares on all carriers in the United States, but, instead of stimulating traffic, the passenger revenues for 1922 will show a decrease of approximately \$82,500,000, based upon the decrease already shown for the first six months of 1922.

The Canadian Lines have a form of certificate which they issue to members of the Commercial Travelers' Association of Canada, Dominion Commercial Travelers' Association, Maritime Commercial Travelers' Association, Northwest Commercial Travelers' Association, Ontario Commercial Travelers' Association, etc.

Upon presentation of these certificates, ticket agents issue transportation sold at a reduction from normal tariff fare. To obtain the benefit of these certificates, members of the organization must travel at least three months of the year in Canada, and must have a residence or business connection, or, at least, an office in Canada. Baggage owner's release must be signed by the holder of the certificate. It will be recognized that this is a preferential form of transportation, confined to an exclusive and favored class, which is not permissible under the laws of the United States.

The present interchangeable scrip ticket meets all requirements so far as the varying rate levels are concerned, for the reason it is issued in the nature of currency, in coupon form, the coupons being accepted for transportation upon the basis of normal tariff fares applicable to the line over which the transportation is furnished, and it makes no difference whether the normal fare be 3.6 cents per mile or 8 cents per mile.

The carriers urge that there be no reduction in the present basis of fares, and that there should be no change in present rules and regulations.

The new law requires "All carriers by railroad subject to this act to sell interchangeable mileage or scrip coupon tickets at just and reasonable rates."

The point is raised that there are certain small steam rail lines and electric lines whose responsibility may be in doubt, or with whom the Class I roads do not now interchange traffic, and if an interchangeable mileage ticket is issued, then difficulty might be encountered in making collections. It is hoped the commission will give recognition to this condition in their deliberations.

Effect of Scalping

The mileage and scrip forms of tickets, especially those honored on trains, are more susceptible to profitable manipulation by scalpers than any other forms. Mileage tickets have formed the chief stock in trade of scalpers in years past, and their greatest profits have been derived from such tickets. Municipal ordinances, injunctions and state statutes have been disregarded by scalpers, who work through a special clientele, and while a national law against ticket scalping would be of great assistance and protection to the carriers and the public against the manipulations of these malefactors, the greatest protection lies in a system of sale, accounting and espionage, which the carriers themselves must be permitted to follow in handling a form of ticket so susceptible to manipulations. But, surrounded by every safeguard known to the carriers, an important percentage of the revenues will be lost to professional and itinerant scalpers

if a scrip or mileage ticket is ordered on sale at any reduction below the present regular fares.

Discrimination

The testimony of the carriers would be incomplete if they failed to call particular attention to what they consider one of the most important phases of this whole question, namely, discrimination. Any form of mileage or scrip ticket at a reduced fare will discriminate against, and unduly prejudice the interests of 80 per cent of the traveling public, assuming that only 20 per cent will travel on mileage or scrip tickets. Such tickets, sold at a discount, would be used by those best able to pay the normal fares. The farmer, artisan, school teacher, clerk, laboring man and other casual traveler would not, on account of their infrequent trips and the price involved, buy mileage or scrip tickets. The commercial man, who is out on business, earning his living in that way, and the business man and others making frequent trips between commercial centers can afford and would purchase mileage or scrip tickets, thus saving a substantial difference in fare, while the casual traveler would pay the full one-way fare when traveling between the same points, on the same train and in the same car.

Commissioner Meyer asked the witness what he would consider a wholesale transaction in passenger traffic, to which Mr. Fox replied that he knew of no wholesale principle in the passenger business. He said the average commercial traveler travels about 50 miles a day, which at the rate of 3.6 cents a mile would be \$1.80 a day. He pointed out that a reduced rate mileage book differs in principle from a reduced rate excursion ticket because it would draw away from the normal one-way business, while excursion tickets create new business and add to revenues rather than detract from them. He also said that a mileage book would be sold to a preferred class and in general a well-to-do class, as indicated by the fact that books in dimensions ranging from 1,000 to 5,000 miles are urged.

J. E. Benton, general solicitor of the National Association of Railway and Utilities Commissioners, brought out that some roads in the West that charge passenger rates higher than the prevailing rate, when mileage books were formerly used, did not require the detachment of an additional number of coupons to represent the higher rate, but Mr. Fox said that a nationwide mileage book would create a different situation and the same reasons that make the basic fares of these roads higher than the regular rate would call for an exemption from the uniform mileage rate. Mr. Fox also said that any mileage book issued should be non-transferable because the use of a transferable book would be substantially equivalent to changing the basic fares. They would be so commonly used that the carriers would sell but few ordinary one-way tickets. He said that if mileage books were sold at reduced rates a burden would be cast on other traffic, either freight or passenger.

Additional Accounting Complications

Mr. Rose said in part:

It has been the endeavor of the carriers for a great many years to equip their agencies with such simple forms of passage tickets as would enable ticket sellers to handle the public with the utmost dispatch to avoid inconvenience and delay to the passenger at the ticket window, and to facilitate the collection of transportation on trains. In carrying out this policy, agents generally are provided with card tickets with printed destinations to all points where the sales justify. Today 90 per cent of the traffic is handled on this form of transportation, which affords the greatest measure of protection against possible loss of revenue, accomplishes the object as set forth above, and produces the utmost simplicity in accounting from every standpoint. Scrip or mileage for general use on trains without exchange at the ticket windows is

equivalent to collecting a volume of cash fares with the added confusion of making the computation, and if the scrip became popular, the carriers would find themselves back 50 years, when there were no ticket offices to speak of, and conductors collected the passenger revenue for the carriers.

These facts should be borne in mind in giving consideration to the advisability of adopting a reduced rate scrip book which might, in some directions, suit the convenience of a limited number of travelers, and, on the other hand, place an absolute burden on the carriers, with much added expense.

Exemptions Asked

Ben B. Cain, vice-president of the American Short Line Railroad Association, spoke on behalf of short lines that have filed applications for exemption and expressed the opinion that there should be some classification which would exempt certain roads. J. W. Carmalt, on behalf of the Ulster & Delaware, said that this company's passenger traffic consists mainly of summer vacation travel or local travel and that the use of mileage books at reduced rates would greatly diminish its revenue. J. D. Rahner, general passenger agent of the Florida East Coast, asked exemption on the ground that 65 per cent of the passenger traffic is seasonal winter tourist travel and includes very little commercial travel. When a representative of the commercial travelers asked if lower rates were not made to encourage the winter tourists, Mr. Rahner said that reduced rates are made, but that his road does not participate, but receives its full local rates south of Jacksonville. He also pointed out that the Florida Railroad Commission had approved a higher rate on its oversea line, which is now 4.8 cents a mile. W. J. Craig, passenger traffic manager of the Atlantic Coast Line, and C. B. Ryan, passenger traffic manager of the Seaboard Air Line, also asked exemption of a number of branch subsidiary lines on the ground that they were built to accommodate particular classes of freight traffic and that the additional accounting expense incident to the use of mileage books would in many cases absorb nearly all of the passenger revenue. It was also shown that many of these lines are unprofitable.

Mr. Fox was cross-examined at length by counsel for the commercial travelers' associations regarding the former practices of the railroads in issuing mileage books and as to why the railroads drew a distinction in principle between reduced rates on mileage tickets and special and excursion rates. Mr. Fox said that the use of mileage books had their origin about 1868 as one of the concessions offered by the freight department to large shippers. After giving an annual pass to the head of a company they would often give a mileage book or sell one at a reduced rate to his traveling men. Later the revenue from this source was transferred to the passenger department, but passenger officials always regarded mileage tickets as an unbusinesslike and pernicious form of ticket and constant efforts were made to get rid of them. By 1918 very few were sold, but it was not until the Railroad Administration took control of the roads that they were abolished entirely. In explaining the difference between reduced rates for mileage and other reduced rates, he pointed out that those special rates are restricted either as to dates, trains or destinations and were, therefore, less valuable than the ordinary ticket and that they stimulated traffic which otherwise would not move, whereas reduced rate mileage books would be sold to passengers who would otherwise pay regular fare and whose transactions in no way represented the wholesale principle. He insisted that a reduction of a few cents a day in the railroad fare of a traveling salesman was not of sufficient importance to decide the question how many traveling men would be sent out.

John E. Benton, general solicitor of the National Association of Railway and Utilities Commissioners, presented let-

ters he had received from the railroad commissions of Nevada, New Mexico and Arizona, asking that whatever mileage or coupon rate the commission may require should be honored in the states where the prevailing passenger rate is 4.8 cents a mile. He also read a letter from the North Carolina commission expressing the opinion that the universal rate should be 3 cents a mile, but opposing any plan by which the general public would pay a higher rate than any class.

Commercial Travelers Ask Discount

of 33-1/3 Per Cent

D. K. Clink, chairman of the transportation committee of the National Association of Traveling Men, who said he represented 676,000 commercial travelers, urged that the commission order the use of a universal interchangeable scrip coupon ticket in the amount of \$100, to be sold at a discount of 33 1/3 per cent, good for one year, the unused portion to be redeemable. He asked that these coupons be accepted for all baggage charges and proposed that they be exchanged for tickets at the regular rates, thus automatically adjusting themselves to varying rates of fare in different parts of the country. He said that a discount of 33 1/3 per cent appeared just and reasonable in view of the fact that railroads formerly voluntarily sold mileage books at such a discount and because they now make a discount of that amount for excursions and other forms of special travel. Mr. Clink said that excessive passenger rates are driving thousands of commercial travelers out of business, particularly those working on a commission basis, and that commercial travelers are a great national asset and should be encouraged. Mr. Bikle pointed out that prior to federal control the Pennsylvania sold a mileage ticket at 2 1/4 cents, while its standard passenger rate since 1907 had been 2 1/2 cents, so that the discount was only 10 per cent. He asked if the witness had not proposed a discount representing about the widest spread he could find. Mr. Clink said the railroads sell some tickets at a discount of 50 per cent. He expressed the opinion that such a reduction would so stimulate travel as to more than make up for the loss in revenue, but admitted that he had no idea what the loss in revenue would amount to.

John F. Shea, chairman of the travel bureau of the American Hotel Association, recommended a scrip coupon book to be sold at a discount of one-third in denominations of \$50, \$100 and \$150, with coupons ranging from one cent to \$5. He proposed that they should be non-transferable and that identification by photograph and signature should be required at the time of issue. He insisted that any reduction

in rates would stimulate travel and cited his own experience in traveling on nine months' tourist tickets to show the reductions in rates which the railroads make voluntarily.

French Records for Weight Per Locomotive Horsepower

By a Foreign Correspondent

RECENT EXAMPLES of locomotive construction in the United States represent very careful study in regard to the design, and to the refinement of details, and to the combination of devices that have proved their worth, into one locomotive, in the endeavor to produce the greatest possible sustained power with the minimum weight of locomotive, and with the minimum consumption of fuel and water.

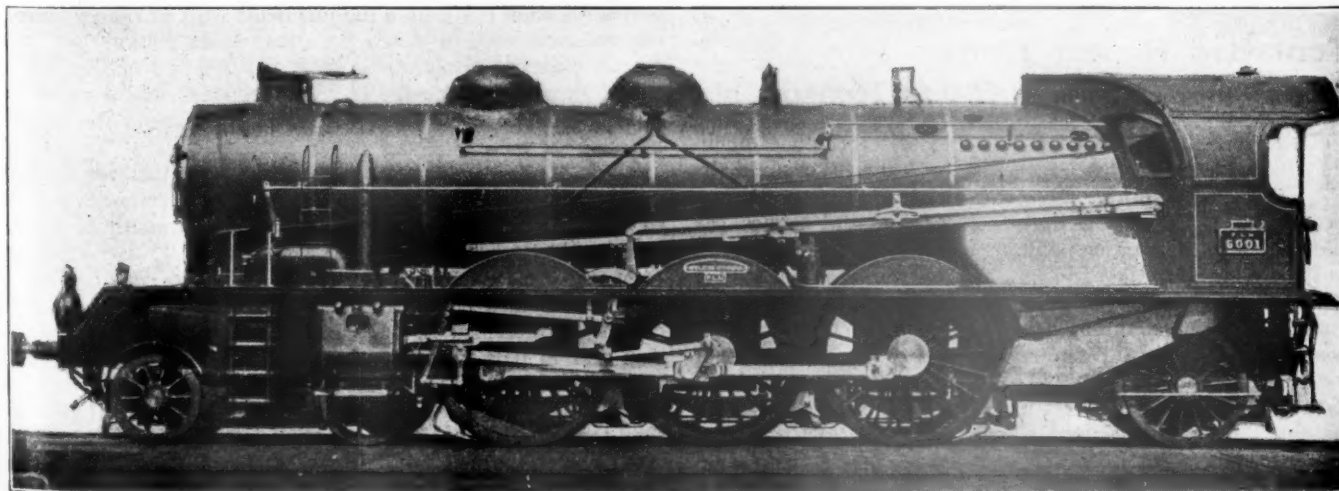
Too much, however, must not be taken for granted, and engineers must not yet be too well satisfied with the results that have been obtained. American locomotives operate in a country where practically there seems to be no limit to the permissible weight allowed on each driving axle, and where the price of fuel has been such that its economy of consumption has not been given its proper consideration.

Turn to Europe, and to France in particular, where the maximum permissible weight on one driving axle is *limited to 18 1/2 metric tons (40,700 lb.)* and in very special cases to 20 metric tons, and where the price of fuel is prohibitive in comparison with the price in the United States. It will not be surprising if, from this country, we shall find the locomotive that produces the most power per pound of metal and per pound of fuel consumed.

The Paris, Lyons & Mediterranean has in operation a large number of Pacific type four-cylinder, balanced-compound, superheater locomotives, which handle its heaviest and fastest passenger trains. The locomotive is clearly shown in the illustration and has the following dimensions:

Diameter, h. p. cylinder.....	17.32 in.
Diameter, l. p. cylinder.....	25.59 in.
Stroke	25.59 in.
Diameter of drivers.....	78.74 in.
Working pressure.....	227 lb. per sq. in.
Loaded weight on drivers.....	122,100 lb.
Loaded weight on one driving axle.....	40,700 lb.
Loaded weight of locomotive.....	204,600 lb.
Maximum indicated horsepower on road test.....	2,405
Weight per indicated horsepower.....	85 lb.

A sample locomotive of this type was constructed in 1913 and put through the severest kind of tests on the road before duplicates were built. As a matter of fact this locomotive was put in competition against some four-cylinder simple



A French Pacific Type Locomotive Which Developed One Indicated Horsepower for Each 85 lb. of Weight

superheater Pacific. The locomotive was tested out on the section from Laroche to Dijon, a distance of 98 miles, of which 81 miles are continuously uphill. This is the most difficult section of the P. L. M. Railway in the run between Paris and Marseilles. Road tests were conducted and carried out and complete data obtained with an accuracy to the *nth* degree. On the final trials this locomotive hauled 709 tons of cars on the regular passenger schedule.

Let us consider just what was accomplished. This Pacific type locomotive with a total weight of *only* 204,600 lb. and with *only* 40,700 lb. on each driving axle, produced continuously 2,000 indicated horsepower, and as a maximum over a sustained period of time produced 2,405 indicated horsepower. This represents producing one indicated horsepower for each 85 lb. *weight of locomotive*, a most truly remarkable performance. At the same time this locomotive operated on the average around $14\frac{1}{2}$ lb. of superheated steam per indicated horsepower per hour, and made the low figure of $13\frac{1}{2}$ lb. of superheated steam per indicated horsepower per hour.

If this locomotive had been equipped with a feedwater heater, with a booster, with highly superheated steam, its performance would undoubtedly have been still more remarkable.

Although the above figures represent those obtained from a particular set of tests, it is not saying too much to state that the Pacific type locomotives of the other French railways, such as those on the Paris Orleans, on the Midi, or on the French State could, and do, duplicate the same results every day. The figures here quoted may be considered as modern French practice.

In talking about world's records, it is necessary to be very well posted on exactly what results the world has produced.

Endeavors in certain isolated cases, in America, have produced very interesting and very truly creditable results, but until there is produced, over a sustained period of time and on the road one indicated horsepower *per each 85 lb. weight of locomotive*, and on a consumption of $13\frac{1}{2}$ lb. of steam per indicated horsepower per hour, it is believed that it is more correct to state that the Paris, Lyons & Mediterranean Pacific locomotive, 6201 class, produces the most power per pound of metal and per pound of fuel consumed.

The automobile and the aeroplane have shown what concentration in design can accomplish. The same endeavor is now being made with the steam locomotive, but America has not yet equalled by a good margin, let alone surpassed, what has become an accomplished and every day result on the French railroads. Let us remember that the mere bulk or the size of a locomotive only makes a world's record in brute weight.

Tentative Report Finds Pullman Rates Reasonable

THE INTERSTATE COMMERCE COMMISSION on September 22 made public a tentative report prepared by Robert E. Quirk, chief examiner of the commission, recommending a finding that the sleeping and parlor car rates of the Pullman Company, as increased by approximately 20 per cent on May 1, 1920, are not unreasonable and a dismissal of the complaint filed by the Order of United Commercial Travelers of America, in which other organizations of commercial travelers joined. The report states that the complainants relied to a large extent on the provision of the law requiring carriers to assume the burden of showing that any rate increased since January 1, 1910, is just and reasonable and upon the contention that conditions do not justify the increases, and introduced very little evidence. It says that while statements made by their counsel at the

hearings indicated that they were more concerned with the surcharge received by the railroads than with the rates assailed, this point is not in issue in the case up for hearing at the present time.

The report says that the 20 per cent rate advance increased the gross revenues of the Pullman Company by approximately \$13,000,000 a year and that the rate reduction sought would, if granted, reduce the revenues by corresponding amount. Any such reduction without reductions in operating expenses more substantial than can now be foreseen would not only unduly impair the defendant's operating income, but would create a deficit. The claim that the rate reduction sought, if made, would stimulate travel in Pullman cars to such an extent as to increase rather than diminish revenues, is dismissed as "too speculative to be accepted as a basis for condemning the rates."

The record does not show, the report says, that the operating department of the Pullman Company has been charged exorbitant prices for the cars constructed by the manufacturing department. The property and facilities set aside for manufacturing are not devoted to public use and may not be considered in this proceeding. Should the manufacturing department incur deficits in its operation, the public could not on that account be expected to pay higher rates for the operation of sleeping or parlor cars. The converse is also true.

No physical valuation of the company's property was on record in the proceeding. The company's estimate of the aggregate value of its property used in common carrier service stated the recorded investment new as \$157,878,314 and less depreciation \$89,611,407; the reproduction cost new \$277,031,929; less depreciation \$172,807,185. The reproduction cost new, based on the price levels of the 1910-1914 period, was stated as \$194,010,346 and less depreciation, \$128,384,858. The report says that whether the defendant's estimate of the value is accurate cannot be determined on the record, but that the record affords no basis for concluding that its estimate of value is excessive.

Of the increase in gross revenue derived from the increased rates, it is stated that approximately four and one-half million dollars accrued to the railroads during the year ended April 30, 1921, as a part of their compensation under their contracts with the Pullman Company. The total amount which accrued to the railroads that year under the contracts was \$12,872,650. During the succeeding 12 months the amount which accrued to the railroads was \$7,627,375, the decrease being due chiefly to a decrease of more than \$15,000,000 in gross revenue and partly to revised contracts with some roads under which the Pullman Company retained a greater share of the gross revenue. The examiner says the existing contracts between defendant and the railroads suggest a question not unlike the one dealt with in the increased express rate case, in which the commission pointed out that for the purpose of obtaining some \$12,000,000 needed additional express revenue the increase proposed would yield an additional total revenue of a figure somewhere in the neighborhood of \$24,000,000.

In 1920 up to September there was an increase in the number of paying passengers carried in the company's cars in each month as compared with the same month of 1919, but in September the number decreased 5.95 per cent as compared with the preceding month and there was a greater decrease in each succeeding month to May, 1921. The decrease was ascribed in part to the general business depression and in part to the surcharge effective August 26, 1920, which, while collected by the Pullman Company, accrues to the railroads. From November, 1920, to April, 1921, inclusive, there was a deficit in net revenue for each month except that of March, 1921, and for the first whole year under the increased rates ended April 30, 1921, the total net revenue was \$4,365,531.

C. E. Spens Appointed Federal Fuel Distributor

Burlington's Traffic Vice-President Takes Over Duties of
H. B. Spencer Under 60-Day Furlough

A CONCENTRATED DRIVE on the part of the railroads for 30 days on the movement of coal and the return of empty coal cars to the mines was suggested by President Harding on September 2 in connection with his appointment of Conrad E. Spens, vice-president in charge of traffic of the Chicago, Burlington & Quincy, as federal fuel distributor, in accordance with the coal priority act passed by Congress, which the President also signed on the same day. Mr. Spens, who was assistant director of traffic of the Railroad Administration and chief of the transportation division of the Food Administration during the war, has been given a 60-day furlough from the Burlington to undertake this work. In a statement to the press following his appointment he indicated that the 30-day drive would be undertaken and he expressed the opinion that with the co-operation of all concerned, particularly the consumers, the result would serve to ameliorate the present apprehension, regarding the country's fuel supply for this winter.

In announcing the appointment it was stated at the White House that the Administration feels that the coal problem is now a problem of transportation rather than production and for this reason especially requires transportation experience in its solution. Henry B. Spencer, who has been acting as voluntary fuel distributor in co-operation with the various departments of the government, had consented to act only until a definite organization could be erected following legislation for the purpose. He requested that he be relieved in order that he might reassume his work as president of the Fruit Growers' Express. The President wrote a letter expressing regret that he was not able longer to continue as federal fuel distributor and to express appreciation for the service performed in tiding over a critical situation. The President said in his letter that the fact that on a small fraction of our normal coal production he had secured its distribution so as to maintain the performance of all of the railways and public utilities is in itself evidence of great service. Mr. Spens took charge of the work at once and announced that F. R. Wadleigh, chief of the coal division of the Department of Commerce, would be his assistant. It is proposed also to make use of the skeleton organization left by Mr. Spencer.

The President also on September 22 signed the bill providing for the creation of a fact-finding coal commission, to consist of seven members to be appointed by the President. It was announced that he would probably not make any appointments for about ten days. In response to the strong demand that representatives of the coal industry and of the miners be appointed on this commission, the President permitted both interests to submit to him a panel of names from which he may, in his discretion, make some selections.

The President's Statement

In a letter to Mr. Spens, the President said:

"I am appointing you to the responsible position of federal fuel distributor under the act just passed by Congress, and I earnestly express the hope that you will direct your first attention to the further extension of the co-operative arrangements with the railways, the coal producing and coal consuming communities and the state authorities which have been initiated by the Secretary of Commerce and Mr. Spencer, the temporary fuel distributor. These arrangements, of voluntary origin, are already having a large effect in mitigating the situation.

"The arrangements set up for the distribution and control of price at last year's levels in the anthracite industry have not been satisfactorily established in co-operation with the state authorities and the coal operators.

WASHINGTON, D. C.

"The producing capacity of our bituminous mines is far beyond the public need; but the limiting factor in the supply is solely transportation. The Interstate Commerce Commission has given complete priority on the movement of coal, equal only with agricultural produce and some other necessities. But beyond these provisions I have the feeling that if we could stimulate the enthusiastic and organized personal attention not only of our railway executives, but of the entire operating personnel of the railways, to a concentrated drive for a period of 30 days, on the movement of coal and the handling of 'empties,' we could solve the coal situation not only as to ample supply, but prices would be quickly readjusted.

"The authority of the federal government under the act is limited to coal moving in interstate commerce, and, therefore, can only be effective in control of distribution and prevention of extortion as a supplement to the activities of the state authorities. The governors of the various states already have, at the request of the federal administration, created state coal commissions, and I trust, therefore, you will take up definitely with them plans for co-operating under the new act.

"The federal government is loath to undertake to fix definite prices for coal, because of the objectionable character of such intervention in peace times, because of the difficulty in arriving at fair prices without giving undue favor to some and loss to others, and also because of the incompleteness of an authority which is only supplementary to state action. On the other hand, I wish you to set up such agencies as will vigorously follow up individuals using facilities of Interstate Commerce who are exacting extortion, as defined in the act, in order that we may have relief from such practices, at the earliest moment.

"I trust that the measures initiated to secure co-operation of the responsible coal operators and dealers can be made effective in prevention of such profiteering. Likewise the organization started among the consuming community to co-operate by delayed purchasing of reserves until transportation increases will aid in restoration of normal prices and distribution.

"It would be far more agreeable to our national sense to solve these matters by co-operation rather than by regulation, and I trust you will find that all elements in the community will join with you in this purpose."

Statement by Mr. Spens

Mr. Spens also issued a public statement saying that he was not yet prepared to announce definite plans for execution of the provisions of the recent act of Congress, but inviting the co-operation of the entire public in the solution of the coal situation.

"The coal production capacity of the country is ample to meet all demands. The immediate problem is transportation, and this demand on the railroads for abnormal transportation of coal due to the miners' strike comes at a time when for well-known reasons the physical capacity of the railroads is subnormal, and at a time when the offerings of tonnage of all character are great. We understand, however, that the railroad situation is daily improving, and feel confident that the carriers are exerting and will continue to exert extraordinary efforts so that what otherwise might become a serious situation will be avoided. The result of concerted action during the next 30 days on part of all carriers,—not only the carriers that originate the coal, but also carriers that participate in the haul of loads and empties,—will, we feel sure, serve to ameliorate the present apprehension of the administration as well as of the public.

"The co-operation of the consumer is practically as important as that of the carrier. At the request of the administration, Julius H. Barnes, president of the Chamber of Commerce of the United States, has addressed American industries, commercial and trade organizations urging that purchases of coal under present conditions be confined closely to current needs and that there be no accumulation of stocks of coal moving under contract or otherwise. I would like to add my appeal to that of Mr. Barnes, but will direct my appeal not only to the 'industrial' consumer, but also to the 'domestic' consumer.

"Sufficient coal can be moved for current consumption, but sufficient coal cannot be moved within the immediate future to equalize the deficit that obtains and provide a surplus above immediate needs. The inconvenience of frequent purchases is small compared

with the distress that might be suffered by an unequal distribution due to exaggerated anxiety or lack of neighborly consideration.

"If all consumers of coal,—whether domestic or industrial,—will calmly consider this appeal and will co-operate as suggested, not only will their current needs be taken care of, but the result will be reflected quickly in the price of coal, which, today, in many sections of the country manifestly exceeds a fair profit-basis.

"The administration is not suggesting that the operator in coal shall sell his coal at cost. Nor is it suggested that he shall sell his coal at less than cost. The administration is, however, indicating, and the present act of Congress contemplates that he shall sell his coal on a basis that will not yield an abnormal profit; in other words, that he shall not take an undue advantage of the present unfortunate economic situation.

"Many coal operators are co-operating in a splendid manner. Regretfully I must add that there are some who are not. Is it asking too much that, during these critical times, untoward speculation in an important necessity to comfort,—to life itself,—must cease, and that there be only legitimate merchandising, based on American standards of fair play?"

On September 23 Mr. Spens addressed a telegram to the governors and fuel administrators of the various states pointing out that the federal act provides that it shall be the duty of the federal fuel distributor, among other things, to ascertain in which parts of the United States there shall be a shortage of coal and the extent of such shortage; the fields of production and principal markets to which such production is to be transported and distributed; the prices normally and usually charged for such coal and whether current prices considering the costs of production and distribution are just and reasonable; the nature and location of consumers, and what persons, regions, or community should receive priority in transportation and distribution, and the degree thereof.

He also pointed out that the federal government can exert its influence on distribution and restrain extortion only so far as concerns coal that may be transported from one state to another. It has no jurisdiction as to coal produced and sold within the state of its production or retail or wholesale margins or handling coal within the states. Responsibility as to these features must rest with the state authorities and if profiteering in coal is to be prevented, except as to coal that may be moved across state lines at extortionate prices, the proper remedy in each case must be applied by state authorities.

"Coal production capacity exceeds transportation capacity," he said. "The problem of adequate supplies and diminished prices is therefore primarily a problem of transportation. The federal authorities in co-operation with the carriers, are making every possible effort to expedite movements. Coal today enjoys the same priority in transportation as food and feed. Transportation of coal is ample to meet current necessities, but is not sufficient to permit stocking either by household or commercial consumers and possibly will not be ample for that purpose for another 60 to 90 days. It appears necessary that state organizations or agencies be created in states where they do not now exist that will invite co-operation, that will prevent stocking of coal beyond current necessities and that will establish reasonable margin for retailers and wholesalers.

"As above stated, the constitutional authority of the federal government is limited, but it will gladly co-operate with these state governments as far as it can properly do so. The major responsibility, however, for the price at which the coal is sold to the consumers by the wholesalers or retailers within the state must rest with the state authorities.

"The federal act is, of course, nationwide in its scope and I am, therefore, addressing this communication to the governors of all states and to the State Fuel Administrations, where such agencies now exist, although I understand there is considerable territory in the United States where there is no imminent coal shortage, nor complaint as to the cost of this commodity. We shall depend upon the judgment of the state authorities in each state as to whether or not the aid

of the federal government is desired or necessary as to interstate coal. I would appreciate early advices from you as to the situation in your state and the measures taken or contemplated to meet the emergency."

Donald D. Conn, of Minneapolis, has been named as assistant federal fuel distributor. Mr. Conn has been stationed in Washington for some time as chairman of a special committee appointed by the governors of seven northwestern states to represent them in connection with the coal-supply situation.

C. P. White, of St. Paul, Minn., has been designated as assistant to the fuel distributor in handling the fuel situation in the northwest. Mr. White acted in a similar capacity in the later days of the President's fuel committee.

C. J. Hepburn, of Philadelphia, has been retained as general counsel to the federal fuel distributor.

F. R. Wadleigh, chief of the coal division of the Department of Commerce, will act as an assistant to Mr. Spens.

E. M. Durham, of the American Railway Association, went to Philadelphia Monday to represent Fuel Distributor Spens at the sessions of the committee of anthracite operators and Pennsylvania state officials who are considering the problem of the distribution of anthracite.

H. M. Griggs, of the Cleveland Ore and Coal Exchange, who has been handling the movement of lake coal, will continue in this capacity.

It is planned by Fuel Distributor Spens to name special advisory committees, representing the general business and transportation interests of the country.

Federal Fuel Distributor Spens has asked the following named railway executives to serve as an advisory committee on transportation: Daniel Willard, president, Baltimore & Ohio; W. W. Atterbury, vice-president, Pennsylvania; H. L. Byram, president, Chicago, Milwaukee & St. Paul; B. F. Bush, president, Missouri Pacific; Hale Holden, president, Chicago, Burlington & Quincy; C. H. Markham, president, Illinois Central; A. H. Smith, president, New York Central Lines; Carl R. Gray, president, Union Pacific System. Mr. Willard has been invited to act as chairman of the committee, which is expected to consider ways and means for accelerating the expedition of coal traffic.

He also appointed an advisory committee for industry, which will keep in close touch with the distribution of fuel supplies among industrial interests in their respective territories with S. M. Vauclain, president of the Baldwin Locomotive Works, as chairman. Members of the industrial advisory committee will be asked to assist especially in the endeavor to have large industrial consumers confine purchases of coal under present conditions as closely to current needs as safety permits; to suspend accumulation of advance stocks of coal until the present emergency pressure on production is relieved; to unload coal cars immediately and return them to service and to promptly furnish material required for new railroad equipment or repairs.

A committee of the National Coal Association conferred with federal officials in Washington on Wednesday with a view to arranging a plan of co-operation between the bituminous coal producers of the country and the fuel administration.

On Wednesday Mr. Spens issued a set of regulations relative to the designation of 17 bituminous coal producing districts which will be observed as units in the work of the federal fuel distributor and outlining certain data required to be furnished daily by all soft coal producers.

A number of naval officers have been detailed to act as field representatives of the fuel distributor.

Each producer of bituminous coal engaged in the mining and production thereof at any place in any of the designated producing districts is directed to mail daily to the district representative of the federal fuel distributor a written statement or report, signed, setting forth fully and specifically

the following information as to all shipments of bituminous coal made during the previous day:

(a) The total number of car loads of each class or grade and size.

(b) Names and addresses of consignees, with car numbers and initials, destinations and amount of each class or grade and size of coal shipped to each consignee.

(c) As to each shipment, the prices or prices f. o. b. mine as contracted for, charged and/or received for each grade of coal shipped. In the case of coal sold at a delivered price at destination, the destination price less transportation cost shall be used as the mine basis.

(d) A designation of such of said shipments as shall have been made under time (or period) contracts for periods of more than one month's duration.

The Interstate Commerce Commission is considering requiring a modification of the reconsignment practices on shipments in open top cars.

Freight Car Loading

WASHINGTON, D. C.

REVENUE FREIGHT car loading showed another considerable increase during the week ended September 16, but was still below the record figures set in 1920. The total was 945,919, an increase of 103,000 cars as compared with the week before, which included a holiday, and of over 14,000 as compared with the week before the holiday. In the corresponding week of last year the loading was 852,552 and in 1920 it was 991,166. Coal loading amounted to 172,241 cars, an increase of 6,730 over the corresponding week last year and of 22,000 as compared with the week before the Labor Day holiday. Increases as compared with last year were shown in all districts except the Pocahontas and Southern, which showed decreases, and in all classes of commodities except grain and grain products. The largest increase was in miscellaneous freight, which showed a gain of over 40,000 cars. There was also an increase of 24,945 cars in ore, 10,872 in forest products, and 4,831 in livestock. The decrease in the loading of grain and grain products was 3,080 but as compared with 1920 there was an increase of 5,810. Livestock and merchandise, l.c.l., also showed increases as compared with 1920. The summary as compiled by the Car Service Division is given in the accompanying table.

The percentage of open-top cars furnished by the railways

to the requirements for such cars continues to show a gradual reduction. During the week ended September 9 the railroads furnished 77 per cent of the requirements as compared with 82 per cent the week before. The number required was 452,355, the number furnished was 346,676, and the number loaded 294,216. For coal loading they furnished 73 per cent of the requirements, for limestone, 83 per cent; ore, 98 per cent; iron and steel, 92 per cent; sand, stone and gravel, 69 per cent; coke, 100 per cent, and miscellaneous, 81 per cent. In the Southern district for that week only 44 per cent of the cars required were furnished, while in the Alleghany district 97 per cent were furnished.

The freight car shortage exceeded the surplus during the period from September 1 to 8 for the first time since 1920, according to the semi-monthly bulletin issued by the Car Service Division of the American Railway Association. For that period the average shortage was 67,899, including 39,032 box cars and 18,555 coal cars, while from other points there were reported surpluses amounting to 43,162, which included 2,187 box cars and 34,685 coal cars. The largest shortage in any district was in the Southern district, 19,333 cars.

More bituminous coal was loaded on Monday, September 25, than on any one day so far this year, or in the year 1921. Monday's loading was only exceeded on six days in the year 1920, during which time there was the heaviest loading ever known in the history of the railroads. The total was 38,804 cars. While loading on that day is always heavy, last Monday exceeded by 1,474 cars the total for Monday, September 18, which had marked the peak up to that time for the period since the miners' strike began on April 1.

For the past two months the Car Service Division of the American Railway Association has been keeping statistics showing the principal freight accumulations, that is, the cars held in greater numbers than can be handled or disposed of currently. By September 8 these accumulations had reached a total of 72,302 for the United States. For the week of September 15 there was a slight reduction to 71,258. Of these, 4,160 were held on account of inability of connections to accept, 1,430 on account of inability of consignees to accept, 57,948 on account of disability of the reporting road, 2,957 for reconsignment, 350 for billing, 1,161 on account of embargoes and 2,847 for export and coastwise shipment. The greatest number of accumulations was in the Southern district, 16,221, while in the Eastern district there were 15,389 and in the Alleghany district 13,941.

REVENUE FREIGHT LOADED

SUMMARY—ALL DISTRICTS, COMPARISON OF TOTALS THIS YEAR, LAST YEAR, TWO YEARS AGO. WEEK ENDED SATURDAY, SEPTEMBER 16, 1922

Districts	Year	Grain and grain products	Live stock	Coal	Coke	Forest products	Ore	Merchandise L.C.L.	Miscellaneous	Total revenue freight loaded		
										This year 1922	Corresponding year 1921	Corresponding year 1920
Eastern	1922	8,118	3,201	48,024	1,490	5,550	5,945	65,750	96,269	234,347	207,190	235,794
	1921	9,288	2,958	44,063	1,321	4,077	1,749	62,060	81,674	198,236	169,406	209,739
Alleghany	1922	2,998	3,174	50,488	3,751	3,424	9,129	49,462	75,810	26,966	30,799	38,178
	1921	3,348	2,947	46,746	2,235	2,401	6,192	46,707	58,830	119,401	120,512	130,911
Pocahontas	1922	245	326	17,044	156	1,177	42	5,022	2,954	154,817	126,334	169,493
	1921	308	390	18,670	154	1,132	224	5,722	4,199	144,638	133,849	139,829
Southern	1922	3,550	2,470	19,900	816	17,319	1,147	36,496	37,703	67,514	64,462	67,222
	1921	3,749	1,921	21,804	319	15,136	308	38,561	38,114	366,969	324,645	376,544
Northwestern	1922	18,928	8,789	8,640	1,350	16,049	34,472	29,473	37,116	945,919	852,552	991,166
	1921	15,742	7,441	9,863	505	11,131	18,376	28,710	34,566	852,552	831,288	961,633
Central Western	1922	13,689	13,474	20,336	475	7,405	2,081	32,700	54,478	890,838	828,883	1,001,308
	1921	17,789	11,572	19,512	169	6,376	735	32,129	45,567	856,219	815,147	968,103
Southwestern	1922	4,562	3,495	7,809	150	6,447	477	15,610	28,964	.....	.....	.....
	1921	4,946	2,869	4,853	130	6,246	764	15,858	28,796	.....	.....	.....
Total Western districts	1922	37,179	25,758	36,785	1,975	29,901	37,030	77,783	120,558	.....	.....	.....
	1921	38,477	21,882	34,228	804	23,753	19,875	76,697	108,929	.....	.....	.....
Total all roads	1922	52,090	34,929	172,241	8,188	57,371	53,293	234,513	333,294	945,919	852,552	991,166
	1921	55,170	30,098	165,511	4,833	46,499	28,348	229,747	292,346	852,552	831,288	961,633
	1920	46,280	32,708	196,103	15,827	62,068	84,789	216,995	336,396	991,166	828,883	1,001,308
Increase compared	1921	.....	4,831	6,730	3,355	10,872	24,945	4,766	40,948	93,367	.....	.....
Decrease compared	1921	3,080	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Increase compared	1920	5,810	2,221	.....	.....	.....	.....	17,518	.....	.....	.....	.....
Decrease compared	1920	.....	.....	23,862	7,639	4,697	31,496	.....	3,102	45,247	.....	.....
September 16	1922	52,090	34,929	172,241	8,188	57,371	53,293	234,513	333,294	945,919	852,552	991,166
September 9	1922	47,732	29,512	139,570	8,418	51,906	53,833	203,666	298,107	832,744	749,552	883,415
September 2	1922	54,019	31,847	149,487	8,389	58,706	62,354	233,550	333,246	931,598	831,288	961,633
August 26	1922	54,562	32,046	111,030	8,390	60,466	65,041	230,000	329,303	890,838	828,883	1,001,308
August 19	1922	55,893	29,756	81,959	8,201	57,934	67,201	229,925	325,350	856,219	815,147	968,103

Australian Gasoline Rail Motor Car

THE STATE RAILWAYS of Victoria, according to information from Harold W. Clapp, chief commissioner of railways, have placed in service recently a gasoline engine motor-driven rail car with the expectation of materially reducing the cost of operation on branch lines where the traffic is light. At present the car is being run between Merbein, Mildura and Redcliffs, in the irrigated citrus fruit section, and serves a population of 14,000 people, the traffic being in the nature of semi-suburban.

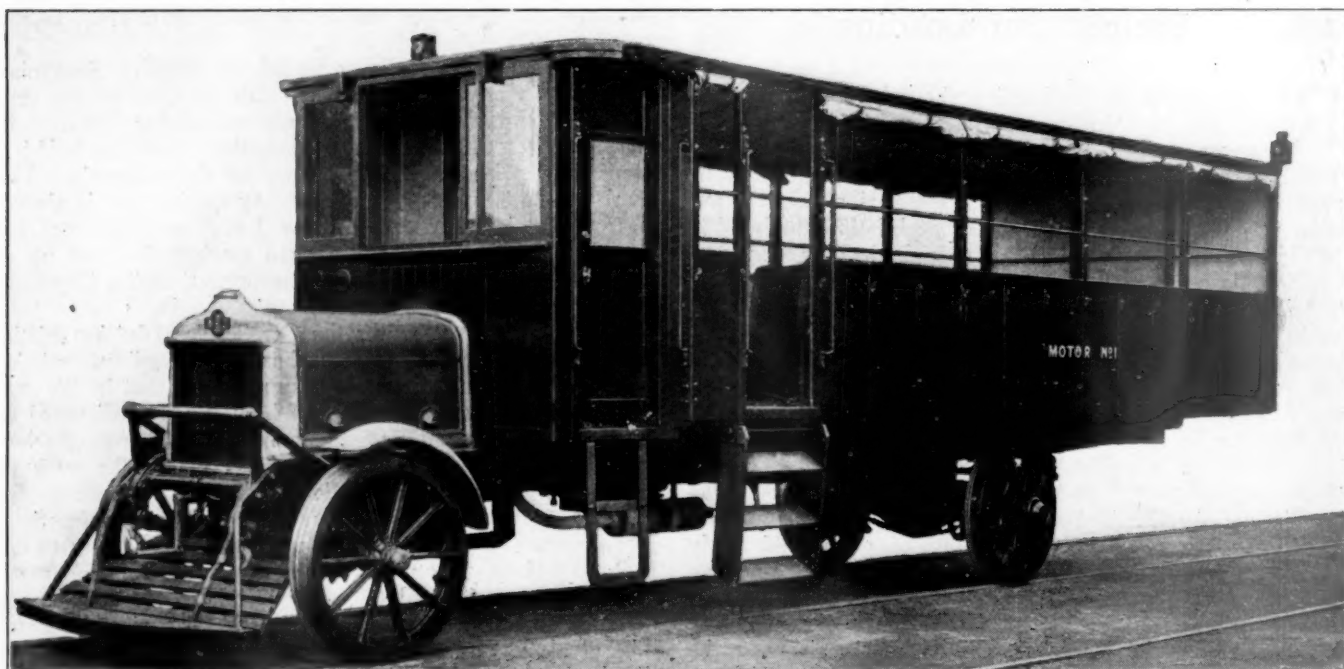
The chassis purchased had an engine developing 45 b.h.p. at 1,000 r.p.m. The frame, which was 14 ft. 9 in. long from the driver's seat to the rear, was cut and spliced out by a 4 ft. addition in the center and an addition of 2 ft. 10 in. at the rear and the driving shaft was lengthened between the universal joint and the gear box to suit the extended wheelbase of 18 ft. 2 $\frac{3}{8}$ in.

No change was required in the rear axle to adapt it to passengers at level crossings, hinged steps are provided on each

carried on angle iron frames. There are four electric lights in the body and one in the driver's compartment. Electric headlights are also included in the equipment.

No provision was made on the car for the carriage of heavy baggage or freight. For this purpose and for the accommodation of extra passengers, a trailer has been built. This consists of a body, 16 ft. 2 $\frac{1}{2}$ in. long over-all, of similar construction to the motor body and divided into two compartments, one of which seats 12 passengers, while the other is simply a parcels compartment. When the trailer is employed, it is in charge of a guard, who is then responsible for the sale and collection of tickets, which is attended to by the driver when a trailer is not in use. The guard is competent to relieve the driver in case of emergency. The trailer is electrically lighted by means of a jumper coupling and bell circuits are installed for exchange of signals between driver and guard.

As the car may be required to pick up and set down pas-



Motor Car for Victoria State Railways—Trailer Attached When Required

use on 5 ft. 3 in. gage railway tracks. A new straight front axle was applied together with 30 in. diameter wheels, having standard steel tires and waste-lubricated journal boxes.

The standard chassis when received had a worm drive, giving a speed of 17 m.p.h. with an engine speed of 1,200 r.p.m. and a gear ratio of 8.25 to 1. In order to provide for speeds of 30 to 35 m.p.h. the gear ratio was changed to 4 $\frac{1}{2}$ to 1 by introducing a new worm and wheel.

No special alteration was made to the brakes, which are all on the rear axle, but the following items were added: pilot, horn and exhaust whistle, speedometer, electric lighting generator and battery, and a spring on the throttle control to shut off the gasoline in the event of the driver, for any reason, letting go.

The car body, which is 22 ft. 7 in. long, 9 ft. wide over-all and 6 ft. 7 in. high inside, is provided with seats for 43 passengers. Two 4 in. by 4 in. stringers are carried directly on the chassis frame channels, and into these are checked transverse bearers at 1 ft. 1 $\frac{7}{8}$ in. centers. The body is of lightest construction and is suitable for use in hot climates. The sides are open above the level of the seat backs and instead of windows, canvas roll curtains are provided in case of bad weather. The seats are of maple battens

side, operated by a lever in the driver's compartment. This mechanism is interlocked so that the clutch can be thrown in only when the steps are clear of the structure gage. In order to prevent passengers from attempting to alight before the steps are in position, the doors are placed under the control of the driver.

The light weight of the motor is 13,900 lb. and the trailer, 8,960 lb., a total of 22,860 lb. The total weight with all 55 seats occupied and allowing 5,150 lb. for baggage, is 36,500 lb. When handling a heavy traffic there is space for 15 standing passengers in the motor car and 6 in the trailer, making a total of 76 passengers, bringing the loaded weight of the two units to 39,380 lb. The speed on the level with a load of 4,480 lb. is 35 m.p.h. and on a two per cent grade, 14 m.p.h.

A MOTION PICTURE to illustrate the manufacture of wrought iron pipe has been prepared by the A. M. Byers Company, of Pittsburgh, Pa., and will be lent to colleges, societies and institutions interested without cost. This film fills three reels and shows the processes from the smelting of the ore to the final inspection of the finished pipe. The Byers Company also furnishes lantern slides of this same process.

General News Department

The Interstate Commerce Commission has announced a resumption of hearings on the subject of railroad consolidations affecting the Southeastern district, before Examiner Healy at Mobile, Ala., on October 16; Jacksonville, Fla., October 18; Atlanta, Ga., October 19 and 20, and Columbia, S. C., on October 21.

The "Rochester-Minnesota Special" of the Chicago & North Western, operating daily between Chicago and Rochester, Minn., has been newly equipped from locomotive to observation car. The new equipment consists of seven steel cars, painted yellow and stamped with the "North Western" trade-mark, including a mail car, a baggage car, two coaches, two Pullmans and an observation buffet lounge car.

W. H. Cundey, assistant general passenger agent of the Denver & Rio Grande Western, was elected president of the American Association of Traveling Passenger Agents at its recent convention held at Calgary, Alta. F. D. Rush, division passenger agent of the Louisville & Nashville, at Cincinnati, Ohio, was elected vice-president and P. C. Benedict, division passenger agent of the Baltimore & Ohio, at Chicago, was re-elected secretary-treasurer. The annual convention will be held next year at St. Petersburg, Fla.

The deficiency appropriation bill, passed by the Senate on September 21, provides an additional appropriation of \$100,000 for the car service work of the Interstate Commerce Commission and \$66,000 for 15 additional safety appliance inspectors but an amendment proposed by Senator Cummins providing \$170,100 for the employment of 35 additional locomotive inspectors for nine months was not accepted by the House conferees and their report without this provision was adopted by both houses on September 22.

Railway Business Association Annual Meeting and Dinner on November 9

The annual meeting and dinner of the Railway Business Association will be held at the Hotel Commodore, New York, on November 9. The subject for discussion will be "Railways as a Factor in General Prosperity and Wise Limits Upon Government Regulation." The list of speakers will be announced later.

Handbook of United States Safety Appliances

In response to demand from the members, another edition of the small Safety Appliance Handbook, covering all classes of cars and locomotives, for use of inspectors and others, similar to that issued in 1915 by the Master Car Builders' Association, revised to date, has been issued by the Mechanical Division of the American Railway Association. These books will be supplied on requisition to members or others by the secretary.

Twenty Passengers Killed at Gonzales, Mexico

By a train wreck, due to a flood, on the National Railways of Mexico, four kilometers south of Gonzales Junction, on September 19, twenty passengers were killed or drowned, as were also all members of the crew except the flagman. About 40 passengers were injured.

The wreck occurred at about 11 p. m. and the train was through passenger No. 2 from Laredo to Mexico City. The track had been washed out by a sudden flood caused by the bursting of a dam some distance up stream, from the railroad. But little rain had fallen in the vicinity of the track.

One account says that two trains were wrecked, a second one colliding with the one first derailed.

Proposed New Highway Crossing Rules in Illinois

Last week the Illinois Commerce Commission and a number of safety representatives of interested railroads met in Springfield, Ill., to discuss nine new grade crossing rulings recently drawn up by that commission. The commission invited suggestions for modifications before the rules are put into effect, and Chairman Smith stated that others interested who did not attend the meeting would have an opportunity of making suggestions in writing. The commission has designated crossings as hazardous and nonhazardous and has formulated rules for the erection of suitable signals. M. A. Dow, of the New York Central lines, advocated placing warning signs at least 200 ft. from every crossing. Of the 207 crossing accidents on his lines last year, 146 occurred at open [unattended] crossings, where the view was unobstructed; and 156 of them were in broad daylight. The commission proposes rules for removing obstructions, leveling approaches and the elimination of growing crops on the right of way which may obstruct the view of crossing. In general the new rules were approved by the railroad representatives.

Suspension of Hydrostatic Tests of Tanks of Tank Cars and Safety Valve Tests

The Mechanical Division of the American Railway Association has announced that upon recommendation from the Committee on Tank Cars, that part of Sections 23 and 24 of the Standard Specifications for Tank Cars, Classes I, II, III and IV, covering the requirements of testing of tanks hydraulically and testing of safety valves, has been suspended as to tanks for which such tests shall become due prior to January 1, 1923, except when such cars are shopped for repairs.

The requirements of Section 23 of each of the specifications named, that new tanks shall be tested before being put into service, and that tanks damaged to the extent of requiring patching or renewal of one or more sheets, or extensive re-riveting or re-calking of seams, shall be re-tested before being returned to service, are not suspended.

The requirements of Section 24 of each of the specifications named, that safety valves on new cars shall be tested and adjusted before cars are placed in service, are not suspended.

Fire Prevention Week

Fire Prevention Week for the railroads of the country has been fixed to begin on October 2, and the Railroad Insurance Association, 80 Maiden Lane, New York City, has issued a bulletin emphasizing some of the nuggets of wisdom which have been evolved in its discussions. We quote:

An Ounce of Prevention Is Worth a Pound of Cure. Do you realize what this means as applied to your own particular work? It means a little thought. A little carefulness each day will prevent destruction by fire of property requiring much labor and great cost to replace. Practicing good housekeeping where your own daily work is done will prevent a fire loss that might take away your present job.

What to Do in Fire Prevention Week.—1. Check up on all property which you are in charge of or which you come in contact with daily to see what fire hazards or dangers may be safeguarded better than at present. 2. Study the fire protection equipment that comes under your daily observation. Is it in order? Is it sufficient? Can you or anyone else use it? 3. Report to the authorities higher up defects, dangers and hazards which you cannot remedy yourself. * * * 4. clean up—Clean Up—CLEAN UP—Clean Up. * * *

W. F. Hickey, superintendent of insurance of the New York, New Haven & Hartford, in a circular, calls attention to the fact that "every day is fire prevention day on railroads." He sets forth in particular the special duties of all concerned in connec-

tion with water barrels, heating appliances, electric installations, water lines and hose, and chemical extinguishers. Where liable to freeze (except Pyrenes), chemical extinguishers should be removed to heated buildings and all extinguishers must have been recharged within a year. Clean out record rooms, lockers, attics, basements, under platforms, house tracks, behind radiators and cabinets, locomotive cabs, around wooden bridges and piles of cross ties.

Great Western to Increase Number

of Motor Car Trains

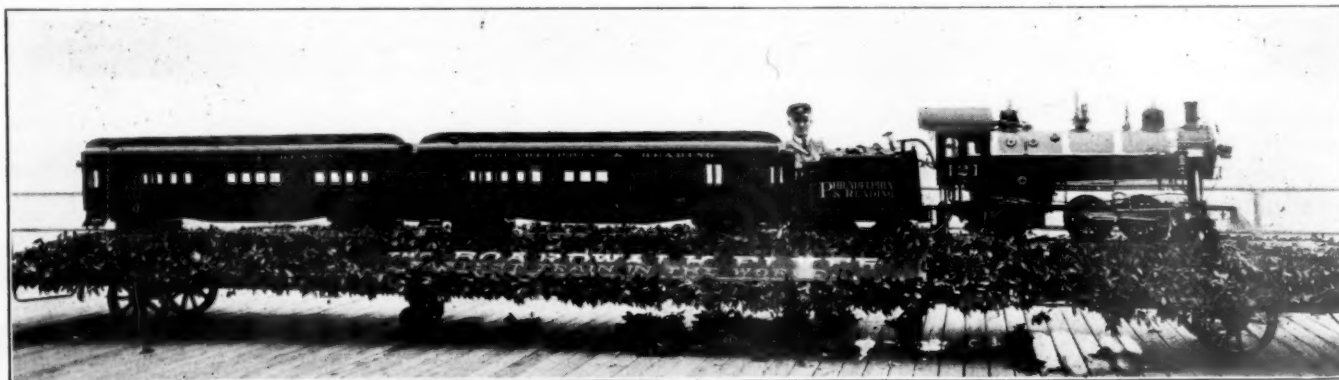
The Chicago Great Western considers its recent experiment in gasoline motor driven cars for passenger service on branch lines such a success that it is planning to purchase several additional motor trains mainly for service in the more thickly settled sections of Iowa. The trains consist of a specially constructed motor car, equipped with a high-power gasoline engine and a trailer which resembles an ordinary interurban electric coach, although more heavily built. The motor car has room for freight and baggage just back of the compartment occupied by the engineer.

"My theory is," S. M. Felton, president, is quoted as saying, "that with the low overhead on the gasoline-driven train, we can afford to stop at every crossing, farmhouse or small station, if necessary. In this way we expect to give the kind of service which will be appreciated by the Iowa farmers and build up a good interurban traffic. The interurban trolley systems can do this and make it pay and so should the railroads. We have the tracks, the stations, and all the other equipment of a right-of-way. All that is necessary is to add the trains."

The four trains now in use in Iowa, Mr. Felton added, are running from 100 to 150 miles a day without difficulty. The Russell Company, Kenosha, Wis., supplied the equipment recently placed into service by this company between Des Moines, Ia., and Marshalltown.

The Boardwalk Flyer

The Philadelphia & Reading took the first prize in the parade of decorated rolling chairs and floats in the Atlantic City Pageant of September 7, the main feature of its display being a model of the "Boardwalk Flyer." This model, a locomotive and two cars, was preceded by the Reading shops' band and the Reading shops' double quartette. The Reading float was in the eighth division of the parade. It won not only the first prize in the entire



Model of "The Boardwalk Flyer," Exhibited at Atlantic City, N. J., on September 7

parade, a handsome gold cup, but also the first prize in the division, a beautiful silver cup.

The model of the "Boardwalk Flyer" was built by Jack Daly, foreman of boiler makers at Reading. The wheels of the train were made to revolve by steam generated in the engine, which gave to the model a realistic appearance of a train in motion. The model is about 30 ft. long and 3 ft. high.

The Boardwalk Flyer, leaving Camden at 4:10 p. m., runs to Atlantic City, 55½ miles, in 55 minutes.

On Thursday evening, September 7, the Reading shops' band in a contest with the Philadelphia band and the Altoona shops' band of the Pennsylvania Railroad on the steel pier, won first prize, a silver cup.

Bridge and Building Convention

The American Railway Bridge & Building Association will hold its thirty-second annual convention at the Hotel Gibson, Cincinnati, on October 17-19. The program for this meeting is as follows:

TUESDAY

Convention called to order 10 a. m.
Reports of officers and appointment of special committees.
Report of Committee on Pile Driving Records.
Report of Committee on Labor Saving Devices in Routine Bridge and Building Work.
Report of Committee on Building Inspection and Records
Report of Committee on Relative Merits of Wooden, Steel and Concrete Tanks.

WEDNESDAY

Address by H. A. Worcester, vice-president, Cleveland, Cincinnati, Chicago & St. Louis.
Report of Committee on the Painting of Structural Steel.
Report of Committee on the Framing of Bridge Timbers Before Treatment.
Paper on the Reconstruction of the Cincinnati Bridge of the Cincinnati Southern by F. W. Henrici, assistant engineer of construction, American Bridge Company.
Report of Committee on the Handling and Driving of Concrete Piles.
Inspection of new bridge of the Cincinnati Southern over the Ohio river.

THURSDAY

Report of Committee on the Construction and Maintenance of Sewers and Drains.
Closing business, including election of officers and selection of meeting place.

On Tuesday evening C. E. Paul, chief engineer of the Miami Conservancy District, will present an illustrated paper on the flood protection work in the vicinity of Dayton, Ohio. The annual dinner of the Bridge and Building Association and the Bridge and Building Supply Men's Association will be held on Wednesday evening. Thursday afternoon will be spent in an inspection of the Cincinnati terminals. On Friday a trip will be made to Dayton where the flood protection work of the Miami Conservancy District will be inspected.

Coal Analyses by Bureau of Mines

The results of analyses of hundreds of coals from 25 states and the territory of Alaska are given in Bulletin 193, "Analyses of mine and car samples of coal collected in the fiscal years 1916 to 1919," by Arno C. Fieldner, Walter A. Selvig, and J. W. Paul, just issued by the United States Bureau of Mines. Information as to the heating values of all coals tested is also given in the

bulletin, which should be of interest to all extensive users of coal fuel.

Many mine samples of coal are analyzed each year in the laboratories of the Bureau of Mines. Descriptions of the coal samples collected between the beginning of this work, July 1, 1904, were compiled and published in Bureau of Mines Bulletins 22, 85 and 123.

In order that the material in this bulletin may be used to supplement that presented in earlier bulletins, the same plan of geological classification has been followed, the analyses and descriptions of the samples being grouped in alphabetical order according to the states, county and town near which the mines or prospects sampled are situated.

Information regarding coal sampling and analytical methods employed by the Bureau of Mines and a bibliography on the coal resources of the world are contained in the bulletin.

The entire distribution of Bulletin 193 will be through the superintendent of documents, Government Printing Office, Washington, D. C., from whom the report may be obtained at a price of 35 cents. Bulletins 22, 85 and 123 are sold by the superintendent of documents at prices of 85, 45 and 50 cents, respectively.

California Saved Ten Million by

Reduced Freight Rates

According to the Railroad Commission of California, the people of that state have been saved \$10,450,000 by railroad rate reductions effected during the past fiscal year. The commission states that on behalf of California shippers it supported the reduction in hay and grain rates before the Interstate Commerce Commission, resulting in a cut of 10 per cent and, in addition, obtained a like reduction on products of the field, orchard and range. As this reduction applied to citrus and dried fruit, it was even more beneficial to California than that affecting the hay and grain movement. When the Interstate Commerce Commission ordered a general reduction amounting to approximately 10 per cent in interstate freight rates in the Western division, effective July 1, the California commission notified the carriers that a like reduction would be expected on shipments entirely within the state, and the roads responded favorably. This saving alone to California shippers on interstate and state freight movement is said to amount to about \$10,000,000 a year. Only recently the commission made a reduction in freight rates between Los Angeles and Imperial County points which will result in a saving of more than \$200,000 a year. This decision, the commissioners expect, will not only save money to shippers, but more important, will contribute materially to the development of the Imperial valley. The California Railroad Commission also claims to have saved express shippers several million dollars by resisting a proposed increase in rates and to have been the direct means of bringing about a national investigation of express charges, which is expected to result in reductions throughout the country.

Signalmen Ask for Higher Wages

Requests for increases in pay affecting members of the Brotherhood of Railroad Signalmen of America on 42 railroads and their subsidiaries were brought before the Railroad Labor Board on September 25 by D. W. Helt, president of that organization. Mr. Helt asked practically for the scale of wages in effect under the Board's Decision No. 2 and for certain rules and working conditions which would result in virtually restoring the old signalmen's national agreement.

In opening his case, Mr. Helt said the signalmen based their action on four premises: (1) The general upward trend of the living wage; (2) that the Board in computing reductions in 1921 and 1922 had not used facts of "sound validity"; (3) that the first reduction was made in error, and (4) that government figures place the living cost of the average family at \$2,400 a year.

Mr. Helt also asked for the restoration of punitive overtime after the eighth consecutive hour of work instead of after the ninth hour as is the case under the present rules, and for Sunday and holiday work.

The carriers' side in the controversy was presented by J. W. Higgins, Dr. C. P. Neill, and J. G. Welber, representing respectively the western, southeastern and eastern carriers. The general trend of their testimony was to the effect that the downward trends in industrial wage levels and living costs since Decision No. 2 was placed in effect prohibit the restoration of the rates of pay provided for in that decision and that the present rates of pay of these employees are "just and reasonable" in light of the decreases which have taken place in the cost of living during the past year. Regarding the request of the employees for punitive overtime after the eighth hour the carriers' representative pointed out that the Board had already recognized the peculiar conditions connected with the work of signal and maintenance of way employees and that the application of the provision asked for by Mr. Helt would result in penalizing the railroads for conditions over which they were in a position to exert no control.

Traffic News

The Union Pacific has closed its district freight and passenger agent's office at Santa Barbara, Cal., and this territory will be covered by the general agents at Los Angeles.

Black Hills, South Dakota, is the title of a booklet recently issued by the association of Black Hills Commercial Clubs in collaboration with the immigration department of South Dakota. The book gives historical data concerning the settlement of that country and many descriptions of cities and towns.

The Ocean Traffic Bureau of the Port of Philadelphia has appointed W. H. Reed as manager. Mr. Reed was in the railroad service for years, having begun with the Illinois Central in 1899 and subsequently serving on the Mobile & Ohio and the Missouri Pacific. He was engaged in the foreign freight section of the traffic department most of the time.

The Chicago, Burlington & Quincy, now offers homeseekers' excursion rates from stations on its lines in Illinois, Iowa, Missouri, Wisconsin and Minnesota; Atchison and Leavenworth, Kan., and Omaha, Neb., to many destinations in Minnesota, Montana and North and South Dakota. Tickets are on sale every Tuesday up to and including October 31. Generally speaking the round trip fares will equal the one-way rate plus \$2 and tickets will be good for 21 days with some stopover privileges.

There is much concern on the Pacific coast over the present shortage of refrigerator cars to handle the ripening crops. The Pacific Fruit Express which is owned jointly by the Southern Pacific and the Union Pacific has at present less than 1,000 of its total 20,000 refrigerator cars in service located at points west of Ogden, Utah, Portland, Ore., and El Paso, Tex. Urgent calls have been made upon the Eastern roads for the return of the refrigerators, and also upon the car service division of the American Railway Association, supplemented by representations to the director of service of the Interstate Commerce Commission. These appeals have been reinforced by representations to the Interstate Commerce Commission by the California state director of agriculture. In addition to efforts of the roads, everything that state and federal authorities can do is being done to bring about the restoration of normal fruit car service.

Mr. Alfred Pleads for Auto Industry

F. H. Alfred, president of the Pere Marquette, has appealed to the Interstate Commerce Commission "to come and save the automobile industry and its workers." The message was in the form of a suggestion for general effort on the part of all carriers "to utilize to the fullest extent standard box cars for the handling of priorities, so that any surplus will be in the shape of automobile box cars that can be used by that industry." There are at this time, says Mr. Alfred, practically no cars for loading automobiles at plants in Michigan, and unless cars can be provided it will be necessary for these plants to curtail production. He further suggested that the railroads be instructed so far as possible to use automobile cars for shipments destined for Michigan, so that these cars will be available for automobiles.

CENTRAL CONTROL of automotive traffic has now become imperative, in the view of J. M. Glenn, secretary of the Illinois Manufacturers' Association. So much business has been diverted from the railroads to the automobile, and transportation by gasoline has become such an important factor, coupled with the inability of the public highway to meet the demands, that it is imperative that the Interstate Commerce Commission and the various state utility commissions assume control of motor truck and auto passenger traffic, says Mr. Glenn. The railroads are trying to meet the competition by introducing gasoline cars, but experts doubt if they will be successful. The state furnishes the automobile carrier a road maintained at public expense, and yet it is plainly inadequate.

Commission and Court News

Interstate Commerce Commission

The commission has changed from September 15 to October 2 the effective date of its order increasing the divisions received by the Kansas City, Mexico & Orient out of through rates with its connections.

State Commissions

The Interstate Commerce Commission, at the request of the Railroad Commission of California, has sent a representative to that state to investigate conditions relative to the shortage of refrigerator cars needed immediately to move a very heavy grape crop. The state commission claims that the grape growers are threatened with financial ruin owing to inability to obtain refrigerator cars.

California Commission Checks

Construction of New Crossings

In passing upon a recent application of the Southern Pacific for permission to construct a spur track, the Railroad Commission of California warned industries against the expenditure of large sums of money on plants in anticipation of the granting of spur track permits. In the present case the road was authorized to construct a track at grade across Santa Fe avenue and the tracks of the Los Angeles Railway Company in the city of Vernon, to serve the California Dressed Beef Company, which had expended \$250,000 on its plant and \$12,000 on the proposed track before the commission had passed on the application.

"We draw particular attention to this circumstance," the commission said, "for in many applications filed with us our reports of inspection on the ground reveal that a large amount of money is expended on buildings which are located to fit in with a particular location of the track in which a grade crossing of a public highway is involved, and this expenditure is used as an argument toward granting the application. It would be better for the carriers to see that proposed industries fully understand the situation and refuse to do any construction work until the proper application has been filed and granted; and we wish to announce that expenditures so made will not be considered in connection with applications to construct crossings at grade."

Personnel of Commissions

Ray W. Clarke, attorney-examiner of the Interstate Commerce Commission, in charge of matters relating to certificates of public convenience and necessity and acquisition of control of one railroad by another, has resigned effective on October 31 and will engage in the practice of law in Washington.

Court News

Shipper Limited to Grounds of Negligence Alleged

A shipper suing for damages to goods and setting forth specific grounds of negligence, as unreasonable delay and failure to ventilate car, cannot recover on another ground of negligence, such as negligence as to icing the car, which is not specified.—New England Fruit & Produce Co. v. Hines (Conn.) 116 Atl. 243.

No Liability from Clogging of

Culvert Without Negligence

The Alabama Supreme Court holds that if a railroad culvert was sufficient to take care of a stream, and became obstructed without the railroad's knowledge or fault, the railroad was not liable to a landowner for damage by overflow, unless it was negligent in not knowing of, or in failing to remove the obstruction.—Alabama Great Southern v. Killian (Ala.) 90 So. 906.

Foreign Railway News

Russian Railways in Deplorable Condition

LONDON.

The Russian commissar for education, Dzerjinsky, at a recent conference of the communist party, submitted a report stating that 90 per cent of the railway lines were now dangerous for traffic. He further stated that during the last four years practically no repairs to the lines have been done at all. In pre-war years 40,000,000 ties had been renewed annually. In 1920, the commissar for communications had drafted a scheme for the annual replacement of 18,000,000, a quantity which he stated would be adequate. In fact, however, he was only able to renew 6,500,000 ties. Though orders have been given to reduce the speed of trains and the load limit, unless 44,000,000 ties are renewed during the present year, the Russian railway system will, stated the commissar, become practically useless. The only lines on which no immediate repairs were needed were the Nicolaievsky line, the Alexandrovsky line and the Moscow-Winday-Rybinsk line.

Dzerjinsky, replying to a statement in the Soviet press alleging the concealment of profits, declared that the commissariat had a big deficit and owed an enormous debt to its underpaid staff, and was faced with the danger that the workers would give up in disgust.

China Notes

PEKING.

The Peking-Suiyuan Railway management announces that work upon the Paotou extension has proceeded to such an extent that passengers can now be carried on construction trains three stations beyond Suiyuan.

The Shanghai-Nanking Railway is installing a "train control" system, which is a combination of the "staff" and the "dispatcher" system. Movements of trains will be authorized by delivery of the staff as heretofore, but the arrival and departure of trains at stations will be telephoned to the "train controller" as under the dispatcher system, and records will be kept of train movements similarly. The train controller will also issue orders for the delivery of the staff to trains which are to be given preference, much as train orders are given under the dispatcher system. This is an innovation in China and is an attempt to postpone double-tracking of a portion of the Shanghai-Nanking line. This line has experienced an increase in passenger kilometres of nearly 60 per cent since 1915 and an increase in ton kilometres of nearly 90 per cent during the same period. The busiest section of the line carries about forty trains a day as an average.

Reports have it that the British & Chinese Corporation is offering to advance to the Chinese government sums sufficient to pay supply bills, wage arrears, and forthcoming interest charges of the Canton-Hankow Railway on the condition that the government will yield to the corporation the right to appoint the traffic manager and three traffic inspectors of the line. The finances of this line are further jeopardized by the uncertain future of the Hanyang Iron & Steel Works. Because of business depression and the curtailment in naval expenditures, Japanese firms which have had long term contracts with the Hanyang works are cancelling orders and refusing shipment. Very recently one order for some 6,000,000 taels of billets was refused and this firm has been so short of funds as to be constantly in arrears to the railway on its freight charges for coal. As this coal traffic constitutes the bulk of the freight traffic on the railway, the prosperity of the iron works, for the time being at least, is of profound importance to the railway. Incidentally, many "old China Hands" see a close connection between the fading of Japanese demand for the output of the Hanyang Works and the withdrawal of the Japanese troops from Hankow which lies just across the river.

As predicted in these notes some time ago, the defeat of Chang Tso-lin in the neighborhood of Peking did not mean a final conclusion of hostilities. A battle of several days' duration took place early in the month in the region of the Great Wall at Shanhaikuan. But some influence has deterred Wu Pei-fu from fighting it out to a conclusion as he seemed inclined to do at first. A truce has

been arranged whereby troops of both sides will be withdrawn, and it appears likely that the mandate depriving Chang of his command and his honors will be modified so as to leave him in control of Manchuria. It is stated, however, that he will soon return the rolling stock of the Peking-Mukden Railway, nearly all of which he took with him into Manchuria. The line in the meantime has been operating a very limited train service largely with engines borrowed from the Peking-Hankow line.

It is announced that Wu Pei-fu will cease to collect the revenue of the Peking-Hankow at an early date, thus permitting the Peking-Hankow to begin rehabilitating itself financially. Foreign supply firms have been in despair for several months on bills owed by that line.

The ad interim administration of the ministry of communications which succeeded the flight of Yeh Kung Cho has now been succeeded by definite appointees selected by Wu Pei-fu. For the first time in history, the minister, the vice-minister and the director of the railway department are all able to speak English. The minister, Kao En-hung, is a man of more than usual directness. When coming to Peking to assume office he refused to have a private car put on to the already heavy train, and finding all the seats occupied stood all the way from Tientsin to Peking. He immediately put into effect further retrenchment orders, and fixed the summer office hours at from seven to one. A few bureau chiefs who came late a day or two later, were summarily discharged. A clean-up order went out. Windows were washed, walls were whitewashed, desks were cleared of accumulated trash, and the appearances of the ministry of communications are very much improved. S. W. Lao, who is acting vice-minister, pending the return of Dr. C. C. Wang from the Chinese Eastern, was formerly assistant director of the Tientsin-Pukow line. S. T. Chao, the director of the railway department, for several years was maintenance engineer of the same line, and more lately has been in charge of the construction of the Chefoo-Weihsien railway line.

The finances of the ministry of communications as well as of the government generally are in such a condition that Kao En-hung, as well as the minister of finance, have been giving considerable consideration to the subject of a foreign reorganization loan. In view of the anti-foreign feeling in the country, their enemies have sought to discredit them in this connection. An appeal to Wu Pei-fu brought forth a telegram in which Wu stated that he was not in favor of a foreign loan "until the country was re-united." Wu evidently possesses more of the finesse of a politician than has been credited to him, for this reply has satisfied the "inter-mural" Chinese, and has in no way interfered with or changed the plans of his ministers of finance and communications. Their loan plans have been formulated, insofar as they may have taken shape, only on the assumption of a general re-association of the provinces and an attempt to disband a portion of the present armed forces.

One of the first steps toward meeting the obligations toward foreign creditors has just been taken by the Peking-Suiyuan towards the General American Car Company. The latter has sold some 600 freight cars to the railway which have not been erected because first payments could not be made. By the agreement which has been approved recently by the ministry of communication, the car company will nominate and the railway will appoint a car accountant who will keep a record of the earnings of each of these 600 cars, 50 per cent of which revenue shall be paid by the railway weekly to a depository named by the car company. Penalties by way of increased interest rates are named in case the railway is in default of a specified minimum per month. This is the first approach toward the equipment trust method of financing purchases of rolling stock in China.

The American advisory committee has recently made a grant of \$200,000 gold toward the building of a highway in Hunan from Siangtan to Paoking. The road is to be built by famine refugees, and upkeep for ten years has been guaranteed by the deposit of \$50,000 gold in a special account to be administered by an engineering committee on which foreigners have an equal representation. This road will traverse one of the Siems Carey routes, and will connect one of the most active iron regions with the Canton-Hankow Railway. In North China, highway projects aggregating nearly 1,000 miles are under various stages of progress—mostly under the direction of forces seeking to rehabilitate famine or flood sufferers. A very considerable popular interest in this particular form of communication has been aroused.

Equipment and Supplies

Locomotives

THE MONTGOMERY RAILROAD is inquiring for 4 locomotives.

THE GREEN BAY & WESTERN is inquiring for two locomotives.

THE CHESAPEAKE & OHIO is inquiring for 2 Mountain type and 6 Pacific type locomotives.

THE CHICAGO & NORTH WESTERN may purchase locomotives in addition to the 50 recently ordered.

THE KOREAN CENTRAL has ordered two 2-6-2 type locomotives from the Baldwin Locomotive Works.

THE PACIFIC STATE LUMBER COMPANY has ordered for the Coos Bay Lumber Company, Oregon, one Mikado type locomotive from the Baldwin Locomotive Works.

Freight Cars

THE DETROIT, TOLEDO & IRONTON is inquiring for 500 coal cars.

The City of Grand Rapids, Mich., is inquiring for 3 flat bottom gondola cars.

CHICAGO & NORTH WESTERN is inquiring for 800 gondola cars and 200 flat cars.

THE GRAND TRUNK is inquiring for 2,000 automobile cars, 4,000 box cars and 700 refrigerators.

THE NEW YORK, ONTARIO & WESTERN is inquiring for 100 steel underframes for 40-ton freight cars.

THE NEW YORK CENTRAL is having general repairs made to 200 stock cars at the shops of the Streater Car Company.

THE SEABOARD AIR LINE has ordered repairs to 500 composite gondola cars at the shops of the Virginia Bridge & Iron Works.

THE GREY STEEL PRODUCTS COMPANY, New York, has ordered 2 steel hopper cars of 55 tons capacity from the Pressed Steel Car Company.

THE WEST PENN POWER COMPANY, Pittsburgh, Pa., has ordered 60 hopper cars of 55 tons capacity from the American Car & Foundry Company.

THE GENERAL PETROLEUM CORPORATION, Los Angeles Cal., has ordered three insulated tank cars of 10,000 gal. capacity from the Pennsylvania Tank Car Company.

THE GRAND TRUNK, reported in the *Railway Age* of September 23 as inquiring for 250 refrigerator cars, has ordered this equipment from the American Car & Foundry Company.

THE NEW ORLEANS GREAT NORTHERN is reported to have ordered 200 flat cars from the Southern Car Company and repairs to 197 gondola cars from the same company.

THE MAINE CENTRAL is inquiring for 350 single sheathed box cars, 150 rack cars and 10 produce cars, all to be of 40 tons' capacity. The company is also inquiring for 50 general service cars of 30 tons' capacity.

THE CHICAGO & ALTON has placed orders for repairing 200 steel gondola cars with the Illinois Car Company and 200 steel gondolas with the Mount Vernon Car Manufacturing Company.

THE UNION PACIFIC, reported in the *Railway Age* of September 16 as inquiring for 50 caboose cars, has ordered this equipment from the Mount Vernon Car Manufacturing Company.

Passenger Cars

THE MAINE CENTRAL is inquiring for 7 steel combination baggage and mail cars.

THE CENTRAL SUPPLY COMPANY, Philadelphia, Pa., has ordered one private car from the Bethlehem Shipbuilding Corporation, Ltd., Harlan Plant.

THE RICHMOND, FREDERICKSBURG & POTOMAC, reported in the *Railway Age* of September 2 as asking for prices on six cars for passenger service, has ordered four steel passenger coaches and six steel express cars from the Bethlehem Shipbuilding Corporation, Ltd., Harlan Plant.

Iron and Steel

THE VIRGINIAN is inquiring for 300 tons of steel for bridges.

THE MISSOURI, KANSAS & TEXAS is inquiring for 10,000 tons of 90-lb. steel rails.

THE CHICAGO & ALTON is inquiring for approximately 10,000 tons of steel rail.

THE NEW YORK CENTRAL is in the market for 600 tons of steel for bridges at various places.

THE TEXAS & PACIFIC has ordered 15,000 tons of rail from the Tennessee Coal, Iron & Railroad Company.

THE PENNSYLVANIA RAILROAD is in the market for 3,000 tons of fabricated steel for new shops at Juniata.

THE ATLANTIC COAST LINE has ordered 30,000 tons of rail from the Tennessee Coal, Iron & Railroad Company.

THE NASHVILLE, CHATTANOOGA & ST. LOUIS has ordered 13,000 tons of rail from the Tennessee Coal, Iron & Railroad Company.

THE ATCHISON, TOPEKA & SANTA FE has ordered from the American Bridge Company 246 tons of structural steel for a powerhouse at San Bernardino, Cal.

THE CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS will receive bids until October 5, for bolts, screws, nuts, iron bars, steel billets, firebox and boiler plates, tank and car plates, steel sheets, nails, fence wire, cable wire, axles, boiler tubes and safe ends.

Machinery and Tools

THE GRAND TRUNK is inquiring for a lathe, radial drill, crank planing machine and valve grinding machine.

THE DELAWARE & HUDSON has ordered a 500-ton double end wheel press from the Niles-Bement-Pond Company.

THE LONG ISLAND will install a number of new machine tools in its Morris Park shop. See item under Railway Construction.

THE NEW YORK CENTRAL has ordered one 23-in. lathe from the Niles-Bement-Pond Company. This company is also inquiring for one 27-in. by 18-ft. lathe.

THE PENNSYLVANIA is inquiring for one combination journal truing and axle lathe to accommodate wheels up to 36 in. in diameter and to be motor driven, 3-phase, 60-cycle, 220-volt current. Necessary electrical equipment also to be included.

THE BALDWIN LOCOMOTIVE WORKS, Philadelphia, Pa., is inquiring for machine tools including 2 rod milling machines, 2 plain milling machines, 2 vertical milling machines, 1 frame drilling machine, 2 frame slotters, 4 frame planers, 14 standard planers, 2 turret lathes and 3, 66-in. horizontal boring and drilling machines.

LIMA LOCOMOTIVE WORKS, Lima, Ohio, has ordered 12, 6-ft. Right line radial drills; 6 Pond planers (5 of 60-in., one of 90-in.); and a 50-ft. triple-head Bement locomotive frame slotting machine. The company divided an order for additional tools among three other builders, including three planers, a vertical rod milling machine, axle turret lathe, vertical rod boring machine, four 20-in. engine lathes, two tool makers' lathes, a 60-in. wheel press, two 18-in. slotting machines, a horizontal boring and milling machine, cylinder boring machine and two turret lathes.

Supply Trade News

J. W. Floto has been appointed sales manager of the Globe Steel Tubes Company with headquarters at Chicago.

The Brown Instrument Company, Philadelphia, Pa., has opened a New England branch at 185 Devonshire street, Boston, Mass., with George Goodman in charge.

A. W. Donop, formerly Pacific Coast district manager of the U. S. Light & Heat Corporation, with headquarters at San Francisco, has been appointed district manager in the



A. W. Donop

railway department of that company, with headquarters in Chicago, to succeed E. C. Wilson. Mr. Donop has been identified with electric car lighting since its inception, having operated and maintained some of the original headend equipment on Pullman cars. He entered the service of the Pennsylvania at the time when that road established a carlighting maintenance department. He later was in the employment of the Gould Storage Battery Company, and the Lehigh Valley, respectively. In 1907, he

entered the service of the U. S. Light & Heat Corporation, with which organization he has been chief inspector, traveling engineer, and a district sales representative.

Pell W. Foster, Jr., in the sales office of the Power Specialty Company, New York City, has been appointed New England district manager, with office at 50 Congress street, Boston, Mass.

The Consolidated Machine Tool Corporation of America, New York City, has let a contract to the Shoemaker-Satterthwait Bridge Company, Philadelphia, Pa., for building a two-story foundry, 98 ft. by 240 ft. of steel and concrete construction, at its Hilles & Jones plant, Wilmington, Del.

The Prest-O-Lite Company, Inc., New York, announces a complete new line of storage batteries for railway signaling and interlocking, conforming to the specifications of the Signal Section, A. R. A. The railroad sales division of the National Carbon Company, Inc., Cleveland, O., has been appointed to handle the sales and field service of this new line of equipment.

J. G. Carruthers, manager of sales in the Chicago district for the Illinois Steel Company, and special sales agent of the Carnegie Steel Company, with headquarters at Chicago, has resigned to become general sales manager of the Otis Steel Company, Cleveland, O. He will be succeeded by D. T. Buffington of the structural and plate bureau, general sales department, Illinois Steel Company.

The Davis Boring Tool Company, St. Louis, Mo., has bought land for a new factory site fronting on Forest Park boulevard at the corner of Spring avenue. Preliminary work is now under way for putting up a modern three-story daylight factory in the near future. This company manufactures expansion boring tools and expansion reamers for all classes of metal boring in railroad shops. The company during the past 18 years has found it necessary to seek larger quarters on account of increased business and during that time outgrew four different factory buildings.

W. Newton Jeffress has severed his connection with the Carnegie Steel Company and other United States Steel Corporation interests with which he has been identified for a number of years, and is now engaged in the railway specialties and supply business, with office in the International building, 1319 F street, N. W., Washington, D. C. Mr. Jeffress represents the following companies: Boss Nut Company, Chicago; Pittsburgh Knife & Forge Company, Pittsburgh, Pa.; Standard Seamless Tube Company, Pittsburgh, Pa.; Union Draft Gear Company, Chicago; Universal Draft Gear Attachment Company, Chicago, and Verona Tool Works, Pittsburgh, Pa.

The Consolidated Steel Corporation, New York, which was formed in 1918 and began business in January, 1919, under the Webb Export Act is liquidating its affairs and it is probable that the Bethlehem-Lackawanna combination will now go after export trade on its own account. The same thing is true of the Midvale-Republic Inland merger. All of these companies with the exception of the Inland have been members of the Consolidated Steel Corporation. The remaining companies according to some reports may form an export company under the Webb law. The liquidation of the Consolidated Steel Corporation may extend over a period of several months. E. A. S. Clarke, president of the Consolidated, recently gave out the following statement: "The company has ceased selling, and will liquidate its affairs as rapidly as consistent with conditions. The member companies are now quoting directly for their own account for export. Liquidation, naturally, involves drastic reduction of personnel. The directors may later consider a modified plan which will enable them to avail of the provisions of the Webb law."

W. S. Rugg, assistant to the vice-president, has been appointed general manager of sales of the **Westinghouse Electric & Manufacturing Company**, East Pittsburgh, Pa. The position of general sales manager is a new one in the Westinghouse Company and Mr. Rugg was appointed to the position because of his long experience in the electrical industry and in sales work. Mr. Rugg was born in Broadhead, Wis., and was graduated from Cornell University. He entered the service of the Westinghouse Electric & Manufacturing Company in 1892 and three years later was transferred from Pittsburgh to the Chicago office as district office engineer. In 1901 he was transferred to the New York office as special sales engineer, and in 1909 was made manager of that office. He was again transferred in 1917 to the East Pittsburgh works and was appointed manager of the railway department and shortly after he became manager of the marine department also. In 1920 he was promoted to assistant to vice-president in charge of sales, and now becomes general manager of sales as above noted.



W. S. Rugg

Trade Publications

ELECTRIC HOISTS.—Sprague electric type WX worm drive hoists are described in a two-page folder issued by the Sprague Electric Works of the General Electric Company, New York, N. Y. The folder includes a sectional drawing of the hoist and furnishes a brief description of each part.

CINDER PLANTS.—The Roberts & Schaefer Company, Chicago, has issued a four-page folder illustrating and describing its N. & W. type cinder plant. The text matter contains a list of 11 advantages of this type of plant while the illustrations show the construction and method of operation.

Railway Construction

CANADIAN NATIONAL.—This company has awarded contracts as follows: To William A. Dutton, Winnipeg, Man., for the construction of dams and the excavation of reservoirs at Pope, Man., Raymore, Sask., Conquest, Maryfield and Mecheche, Alta.; to the Northern Construction Company, Winnipeg, for the construction of a dam and the excavation of a reservoir at Wiseton, Sask.; to C. G. Anderson, Norwood, Man., for the construction of a dam and the excavation of a reservoir at Rama, Sask.; to Green & Elsasser, Winnipeg, for the construction of pipe lines at Wiseton, Sask., Rama, Raymore and Maryfield, Alta.; to G. M. Irwin, Stonewall, Man., for the construction of a pipe line at Pope, Man.; to the Jamieson Construction Company, Edmonton, Alta., for the construction of a pipe line at Mecheche, Alta.; to Riley & Reed, Patience, Alta., for the construction of a dam and the excavation of a reservoir at Tilney, Sask.; to Simpson & Shillington, Winnipeg, for the construction of 10,000 ft. of pipe line at Lloydminster, Sask.; and to the Ideal Fence & Spring Company, of Canada, Winnipeg, for the erection of approximately 50 miles of fencing on the Oakland subdivision in Manitoba.

CHICAGO, BURLINGTON & QUINCY.—This company will accept bids until September 29 for a one-story brick reclamation plant 50 ft. by 301 ft. at Eola, Ill.

CHICAGO, MILWAUKEE & ST. PAUL.—This company has been ordered by the Board of Railroad Commissioners of South Dakota to build a freight and passenger station at Beardsley, S. D.

CHICAGO, ROCK ISLAND & PACIFIC.—This company, reported in the *Railway Age* of July 1 as contemplating the construction of a freight station at Omaha, Neb., has awarded the contract for the grading work to Roberts Brothers, Peterson, Shirley & Gunther of Omaha, Neb.

GRAND TRUNK.—This company will accept bids until October 4 for a two-story brick freight house 20 ft. by 32 ft. at Harvey, Ill.

GREEN BAY & WESTERN.—This company has awarded a contract to the Ogle Construction Company, Chicago, for coal handling machinery to be used in a 200-ton frame coaling station at Whitehall, Wis., which the company will erect with its own forces.

HOUSTON & BRAZOS VALLEY.—The Interstate Commerce Commission has issued a certificate authorizing the construction of an extension from a point near Clute to Hoskins Mound in Brazoria County, Texas, 13 miles.

LONG ISLAND.—This company is making some improvements at their repair shops at Morris Park, L. I., to include a new office building and a new storehouse, both to be of reinforced concrete; the installation of new machinery and two new overhead cranes in the locomotive shop; the remodelling of the old office building into a wheel shop with new machinery. The new office building will be 40 ft. by 80 ft. and will have three floors and basement, the basement to accommodate a modern restaurant for supervisory and office forces, rooms for records, and lavatory for men. The first floor will accommodate the superintendent of motive power's general office force and an information and employment bureau. The second and third floors to have offices of the superintendent of motive power and engineering forces. The new storehouse will be 40 ft. by 100 ft. and will have three floors and a basement, to be equipped with electric elevators for freight and an electric dumb-waiter to speed up delivery for light material to the delivery counter located on first floor. The entire building will be equipped with modern type of adjustable steel shelving. On the third floor will be located the office of the storekeeper and his office force. The old office building and present storehouse will be remodeled into a wheel shop and will have installed a complete monorail system for unloading wheels and axles and for handling this material in shop. New axle lathes, boring mills, wheel press and grinding machines will be installed. The locomotive shop will have a number of new machines, among which are a side head boring mill, a slotter, a bushing press, a radial drill, and a 20 ft. by 10 ft. bed engine lathe. To speed up the handling

of locomotives for repairs, the present slow method of unwheeling locomotives by a drop pit will be done away with and the two present 25-ton cranes will be replaced with a new 150-ton crane, running on a new steel runway the entire length of the locomotive shop. The light work will be handled by a new 10-ton crane, running on this same runway. The entire plant will be equipped with automatic telephones.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—This company, reported in the *Railway Age* of August 26 as accepting bids for a 20-stall roundhouse at Gladstone, Mich., has awarded the contract to Smith & Vandanaker, St. Paul, Minn.

MISSOURI PACIFIC.—This company, which was reported in the *Railway Age* of September 9, as closing bids on September 13, for a passenger station 24 ft. by 100 ft. at Lake Village, Ark., has awarded the contract for this building to the Herman & McCain Construction Company.

PENNSYLVANIA.—This company has awarded a contract to W. E. Wood, Detroit, Mich., for the construction of the foundation of a freight house 60 ft. by 700 ft. at Third and Larned streets, Detroit, and for the construction of a frame engine house 60 by 120 ft. at Lincoln Park, in the same city. This company has also awarded a contract to Meredith & McVaugh, Detroit, for the paving of the driveways of the Summit street yard. The principal engine house, which will serve both passenger and freight locomotives, will be built by the Pere Marquette for the Pennsylvania at Nineteenth street and will cost approximately \$1,000,000, including a turntable, water tank, coaling station and other buildings.

PENNSYLVANIA.—This company is receiving bids for all the work necessary to complete the Baltimore, Md. (Canton), No. 3 yard. The work will consist of laying additional tracks and rearranging existing ones. The approximate quantities are as follows: 10,000 cu. yd. excavation; 4.2 miles track material unloaded, piled, distributed and laid; 12,000 cu. yd. unloading and surfacing with cinder ballast; 43 turnouts, labor laying; 5 crossovers, labor laying; 2 sets crossing frogs, labor laying; 6,300 lin. ft. track shifted; 6,100 lin. ft. track removed; 11 turnouts removed; 3 crossovers removed. The work will be in charge of J. W. Craig, assistant engineer, Union Station, Baltimore, Md.

THE SAN ANTONIO & ARANSAS PASS.—This company has awarded a contract to the Truscon Steel Company, Youngstown, O., for the construction of a one-story steel freight house, 40 by 130 ft., with a second story at one end for offices, to cost \$15,000, at Waco, Tex.

THE REPUBLIC OF POLAND has purchased 7,504 European type freight cars from the United States War Department, according to an announcement made in Washington on Wednesday. These cars were ordered during the war for use by the American army.



International

British Troops Leaving for Turkey

Railway Financial News

ALGOMA EASTERN.—To Pay Interest.—This company announces that interest on the 5 per cent 50-year first mortgage gold bonds, which fell due on March 1 last, and which was deferred, will be discharged in full on October 1 through the Bank of Montreal.

BALTIMORE & OHIO.—Authorized to Acquire Control.—The Interstate Commerce Commission has authorized the acquisition by this company of control of the Indian Creek & Northern by purchase of its capital stock.

BARNEGAT RAILROAD.—Application to Discontinue Operation.—This company has made application to the Interstate Commerce Commission for permission to discontinue the operation of its railroad, which is one of the smaller subsidiaries of the Pennsylvania Railroad System. The line runs through the upper end of Long Beach from Barnegat City Junction, New Jersey, to Barnegat City, a distance of a little over eight miles, and is used chiefly for Summer travel.

The line has never been a paying proposition since the original incorporation in 1883. The Pennsylvania Railroad has been called upon to make up the resulting deficits, in addition to advancing sums, from time to time, for betterments. During this long period the local interests also tried to make the Barnegat Railroad profitable and formed the Manahawken & Long Beach Transportation Company to operate the road, but that was a failure and the road was surrendered. Later the Tuckerton Railroad Company operated the line for the Barnegat Railroad Company, but it could not make it self-sustaining, and was obliged to terminate the arrangement. The Barnegat Railroad Company, therefore, is obliged to abandon its railroad as a total loss.

The immediate cause of the application for abandonment is that not only is the road unprofitable, but there has not been any notable development of the territory sufficient to offer any hope of future net revenue, and this railroad and territory it serves have suffered heavily from tidal washouts. The transportation necessities of this section of Long Beach have been provided for by the construction of a State highway paralleling the Barnegat Railroad, and connecting, near Barnegat City Junction, with the highway bridge across Barnegat Bay to the main shore road at Manahawken.

Further, there has been a very rapid growth of the automobile traffic for commercial and recreational purposes to and from the portion of the New Jersey coast served by the line, and there is also jitney service which runs the entire length of Long Beach. While this commercial and private motor car serves the convenience of the population, the result has been to reduce traffic on the Barnegat Railroad to negligible proportions so that the line is practically a total loss.

CHESAPEAKE & OHIO.—Increases Capital Stock.—The stockholders at a special meeting in Richmond, Va., on September 26 approved the plan of the directors to increase the capital stock by \$30,000,000, making a total of \$185,000,000. Of the 300,000 shares increase, stockholders of record September 1 have been given the right to subscribe at par, on or before October 2, to the extent of 20 per cent of their holdings for new 6½ per cent cumulative preferred stock, series A.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—Guaranty Certified.—The Interstate Commerce Commission has certified the amount of this company's guaranty for the six months period of 1920 as \$2,460,096, of which \$368,096 remained to be paid.

DENVER & RIO GRANDE WESTERN.—Interest Payments.—Judge Robert Lewis of the Federal Court at Denver, Colo., has ordered Joseph H. Young, receiver for this company, to pay interest due in October on the Rio Grande Western consolidated mortgage four per cent bonds of 1949.

HOCKING VALLEY.—Equipment Trusts Offered.—Hambleton & Co. and E. Lowber Stokes & Co. are making a new offering of \$819,000 stamped equipment trust 6 per cent gold notes, dated January 15, 1920, and maturing \$63,000 each January 15, 1923 to 1935, inclusive. The notes are offered at prices ranging from 100.49 to 102.19, and yield from 4.50 to 5.75 per cent according to maturity. They are secured, together with \$1,638,000 unstamped notes, by 20 Mallet type freight locomotives and 50 composite gondola cars.

ILLINOIS CENTRAL.—New Director.—Vincent Astor has been elected a director to succeed R. E. Connelly, resigned.

INDIAN CREEK & NORTHERN.—Acquisition.—See Baltimore & Ohio.

MANILA RAILROAD.—Bonds Offered.—Hallgarten & Co. and the Chase Securities Company are offering, at 112¼ and interest, to yield about 5.75 per cent, \$1,485,000 Manila Railroad Company 7 per cent sinking fund bonds, guaranteed principal and interest by the government of the Philippine Islands.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Defers Dividends.—The directors have decided that no further dividends payable in 1922 will be declared out of surplus until the appeal of two preferred stockholders in the suit over the question of rights of preferred and common stockholders is decided. The appeal will be heard in St. Louis in the next term beginning December 4.

The company has declared dividends of \$2 a share on both the preferred and common stocks, payable April 15, 1922, out of surplus accumulated during 1920 and prior years. The payment of these dividends was enjoined by the United States District Court of Minnesota until the decision on the appeal.

MISSOURI, KANSAS & TEXAS.—Sale Postponed.—The sale of this railway, which was set for September 21, has been postponed.

Extension of time until October 16 has been granted for the deposit of bonds with reorganization managers, J. & W. Seligman & Co. and Hallgarten & Co.

MOBILE & OHIO.—Guaranty Certified.—The Interstate Commerce Commission has certified the amount of this company's guaranty for the six months period of 1920 as \$1,930,735, of which \$605,735 remained to be paid.

NEW YORK, NEW HAVEN & HARTFORD.—Operating Ratio for Seven Months.—Owing to a typographical error the operating ratio for the seven months' period was shown in the *Railway Age* of September 16, 1922, page 531, as 89.80. This figure should have read 79.80.

NORFOLK & WESTERN.—To Redeem Notes.—The directors at Philadelphia on September 26 authorized the calling for redemption at 103 its 6 per cent equipment trust certificates on January 15, 1923. Funds for this purpose will be provided from the company's treasury. No new financing will be necessary.

These certificates, originally amounting to \$6,885,000, were issued to the United States Railroad Administration in 1920. There are at present \$5,524,500 outstanding.

PENNSYLVANIA.—Subsidiary Company Asks Authority to Discontinue Operation.—See Barnegat Railroad.

READING COMPANY.—Time for Depositing Bonds Extended.—The protective committee of the Reading Company and the Philadelphia & Reading Coal & Iron Company general mortgage 4 per cent bonds has extended the time for depositing bonds to December 1.

Railroad Administration Settlements

The United States Railroad Administration reports the following final settlements, and has paid out to or received from the several roads the following amounts:

Illinois Terminal	\$50,000
Pacific Coast	40,000
Direct Navigation Company	40,000
St. Johnsbury & Lake Champlain Company paid Director General..	80,000
SHORT LINES	
Liberty-White	9,000
Indian Creek Valley paid Director General	7,800

Dividends Declared

Norfolk & Western.—Adjustment preferred, \$1.00, quarterly, payable November 18, to holders of record October 31.

Northern Pacific.—\$1.25, quarterly, payable November 1 to holders of record October 2.

Reading Company.—Common, 2 per cent, payable November 9 to holders of record October 17; 2nd preferred, 1 per cent, quarterly, payable October 12 to holders of record September 26.

Trend of Railway Stock and Bond Prices

	Sept. 26	Last Week	Last Year
Average price of 20 representative railway stocks	72.01	73.45	57.23
Average price of 20 representative railway bonds	89.34	89.80	77.17

Railway Officers

Executive

A. L. Grandy, chief engineer of the Pere Marquette with headquarters at Detroit, Mich., has been promoted to assistant to the president and general manager with the same headquarters.

R. S. Logan, vice-president of the land, tax and claims division of the Grand Trunk, has at his own request after 27 years of service, been relieved from active duty and retired under the pension rules of the company. Mr. Logan was born at St. Louis, Mo., in 1864 and he began his railroad career in 1885 as clerk in the office of the St. Louis & Pacific. In 1890 he became secretary to the general manager of the Wabash. In 1896 he entered the service of the Grand Trunk as secretary to the general manager and five years later was promoted to assistant to the general manager. In 1901 he was appointed vice-president and general manager of the Central Vermont and in 1902 to assistant to the vice-president and general manager of the Grand Trunk. In January, 1910, he was appointed assistant to the president of the Grand Trunk and the Grand Trunk Pacific. In 1911 he was promoted to vice-president, which position he held at the time of his retirement.

A. B. Atwater, assistant to the president of the Grand Trunk with headquarters at Detroit has, at his own request after 48 years of service, been relieved from active duty and retired under the pension rules of the company. Mr. Atwater was born at Sheffield, Ohio, in 1845, and entered railway service as a telegraph operator on the Cleveland & Erie, being transferred shortly thereafter to the engineering department of that road. He was later advanced to engineer of construction for the Canada Southern; assistant engineer for the Port Dover & Lake Huron; chief engineer of the Stratford & Huron; general superintendent of the Georgian Bay & Lake Huron division of the Grand Trunk; chief engineer of the Chicago & Grand Trunk. From June, 1885, to July, 1898, he was superintendent of the Grand Trunk, Western Lines, and from the latter date until July, 1902, he was assistant general superintendent of the Michigan Central. From July, 1902, until the time of his retirement Mr. Atwater has served as assistant to the president of the Grand Trunk, Western Lines.

Financial, Legal and Accounting

J. P. Pratt has been appointed assistant general solicitor of the Grand Trunk. **E. McDonald** has been appointed solicitor of the land and tax division.

H. A. Palmer, assistant land and tax commissioner of the Grand Trunk, has been appointed property commissioner to deal with all matters connected with the purchase, sale and lease of the company's lands, reporting directly to the vice-president and general manager.

In announcing the appointment of **J. R. Turney**, assistant general solicitor of the St. Louis Southwestern, as acting general solicitor, in the issue of September 23 (page 591), the statement was made that Mr. Turney succeeded **D. Upthegrove**, deceased. This statement was in error insofar as the death of Mr. Upthegrove is concerned, Mr. Turney's appointment having been brought about by the promotion of Mr. Upthegrove to the position of acting president to succeed **J. M. Herbert**, deceased.

Operating

B. J. Roberts has been appointed trainmaster of the East Carolina division of the Seaboard Air Line, with headquarters at Charleston, S. C., succeeding **A. L. Pritchett**, who has been transferred to the North Carolina division, with headquarters at Hamlet, N. C.

S. H. Osborne, division engineer of the Nebraska division of the Union Pacific with headquarters at Omaha, Neb., has been appointed acting assistant superintendent of the Nebraska division with the same headquarters.

C. H. Brown, superintendent of transportation of the Alberta district of the Canadian National, with headquarters at Edmonton, Alta., has been appointed assistant superintendent of the Biggar division, with headquarters at Biggar, Sask., succeeding **M. H. Stuart**, and has been succeeded temporarily by **J. T. Armstrong**, chief dispatcher, with headquarters at Edmonton, Alta., who in turn has been succeeded by **T. S. Sullivan** who has been transferred from Biggar. Mr. Sullivan will be succeeded by **F. H. Keefe**.

J. E. Mulick, whose promotion to superintendent of the Wyoming division of the Union Pacific, with headquarters at Cheyenne, Wyo., was reported in the *Railway Age* of September 16, was born on April 3, 1872, at Davenport, Ia. He was graduated from Creighton University in 1888 and entered railway service in December of that year as a train caller for the Union Pacific in which capacity he was engaged until September, 1889, when he became a brakeman on the Wyoming division, which position he held until May, 1890. On the later date he was employed as a switchman at the Omaha terminal and in June, 1892, he became a freight brakeman on the Nebraska division, which position he held until October, 1900, when he was promoted to freight conductor which position he held until July, 1910, when he was promoted to passenger conductor. In October, 1916, he was promoted to train master and in November, 1919, he was again promoted to assistant superintendent of the Wyoming division with headquarters at Cheyenne, Wyo., which position he was holding at the time of his recent promotion.

Traffic

C. P. McGhee, traveling freight agent of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Los Angeles, Cal., has been appointed district freight agent, with the same headquarters.

E. H. Batchelder, assistant general passenger agent of the Chicago & Eastern Illinois, with headquarters at Chicago, has been promoted to general passenger agent, succeeding **W. H. Richardson**, deceased. Mr. Batchelder was born on September 30, 1870, at Chicago, Ill. He entered railway service in September, 1883, as an office boy of the Chicago & North Western. In 1896, he was employed by the Chicago, Burlington & Quincy as division clerk in the passenger department at Chicago, which position he held until July 1, 1897, when he left to enter the service of the Atchison, Topeka & Santa Fe in the same capacity at Topeka, Kan. Two years later he entered the employment of the Chicago, Rock Island & Pacific as chief clerk to the auditor in the passenger department at Chicago, which position he held until July 1, 1903, when he left to become chief rate clerk in the passenger department of the Chicago & Eastern Illinois. On May 1, 1904, he was promoted to chief clerk and, on April 1, 1920, to assistant general passenger agent, which latter position he was holding at the time of his recent promotion.

J. F. Brady has been appointed foreign freight agent of the New York Central, Lines East, with headquarters at New York city, succeeding **T. Y. Newman**, who has resigned

to engage in other business. **W. P. Kohler** has been appointed export agent with the same headquarters.

F. R. Newman, assistant general freight agent of the Michigan Central with headquarters at Detroit, Michigan, has been appointed general traffic manager of the Minneapolis, St. Paul & Sault Ste. Marie with headquarters at Minneapolis, Minn.

R. G. McNeillie, whose appointment as general passenger agent of the Canadian Pacific with headquarters at Winnipeg was announced in the *Railway Age* of September 23, page 591, was born at Lindsay, Ontario, on July 1, 1883, and entered the service of the Canadian Pacific in October, 1901, as a stenographer in the general passenger department at Winnipeg. He was promoted to district passenger agent at Nelson, British Columbia, in October, 1909, and remained there until April, 1910, when he was transferred in a similar capacity to Calgary, Alberta. On July 1, 1913, he was advanced to the position of assistant general passenger agent at Winnipeg and remained in this position until the time of his recent promotion. In his new capacity Mr. McNeillie's jurisdiction will cover the Field lines, Kootenay Landing and East.

H. W. Brodie, whose appointment as assistant passenger traffic manager of the Canadian Pacific, Eastern Lines, with headquarters at Montreal, was announced in the *Railway Age* of September 23, page 591, was born at Fredericton, New Brunswick, on June 8, 1874, and was educated in the public school at St. John. He entered railway service with the Manchester, Robertson & Allison in St. John in 1899 as an office boy and went with the Canadian Pacific in 1895 as a clerk. Shortly thereafter he was transferred to Boston and then to Toronto, where after a few months he was advanced to the position of chief clerk. In 1899 he was transferred to Winnipeg in the same capacity and in 1903 he was promoted to assistant general passenger agent at that place. In 1910 he was appointed general passenger agent at Vancouver and remained in that position until the time of his recent promotion.

J. C. Hext, commercial agent of the Southern, with headquarters at Charleston, S. C., has been promoted to foreign freight agent, with headquarters at New Orleans, La., succeeding **L. E. Wetterau** and will be succeeded by **E. L. Brown**. **W. B. Graham** has been appointed commercial agent, with headquarters at Hattiesburg, Mo., succeeding **T. W. Brahan**.

C. H. Ryan, Jr., division freight agent of the Louisville & Nashville with headquarters at Memphis, Tenn., has been



R. G. McNeillie



E. H. Batchelder



H. W. Brodie

promoted to assistant general agent with headquarters at Louisville, Ky., succeeding C. R. Brent, assigned to other duties. Mr. Ryan will be succeeded by **W. C. Dillars**, division freight agent of the Pensacola division, with headquarters at Pensacola, Fla.

W. H. Howard, whose appointment as assistant general passenger agent, Eastern Lines, of the Canadian Pacific with headquarters at Montreal, was announced in the *Railway Age*



W. H. Howard

of September 23, page 592, was born at Chatham, Ontario, on September 15, 1877. He entered the service of the Canadian Pacific as a junior clerk in the district passenger department at St. John, New Brunswick, in August, 1897. Two years later he was appointed traveling passenger agent and in February, 1902, he was appointed chief clerk to the district passenger agent at St. John. In June, 1906, he was promoted to acting district passenger agent with headquarters at St. John, and in the following January became district passenger agent at the same place. In February, 1916, he was transferred in a similar capacity to Toronto and held this position until the time of his recent promotion.

L. S. Wickes, whose promotion to assistant general freight agent of the Oklahoma Southwestern was reported in the *Railway Age* of September 23, was born in 1890, at St. Louis, Mo. He entered railway service on February 1, 1909, in the freight traffic department of the St. Louis-San Francisco. Prior to his service with the Oklahoma-Southwestern he was employed by the Pere Marquette.

Walter Maughan, whose appointment as assistant to the general passenger traffic manager of the Canadian Pacific was announced in the *Railway Age* of September 23, page 591,



Walter Maughan

was born at Toronto on September 4, 1876, and entered the service of the Canadian Pacific as a clerk in the passenger traffic department at Toronto in 1892. In September of the same year he was transferred in a similar capacity to Hamilton, Ont., and remained there until July, 1895, when he was transferred again to Toronto. In March, 1897, he was promoted to assistant passenger agent at Toronto and in November, 1912, was appointed assistant district passenger agent with the same headquarters. In December of the following year he was promoted to assistant general passenger agent with headquarters at Montreal and remained in this capacity until the time of his recent promotion.

F. P. Cruice, manager of the agricultural and industrial departments of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., has been promoted to assistant general freight agent, with headquarters at Los Angeles, Cal.,

taking over the duties of W. G. Barnwell, deceased. He will be succeeded by **F. Jarrell**, who was in charge of publicity matters and editor of the company's magazine, "The Earth."

W. R. Des Brisay, whose appointment as assistant general passenger agent of the Canadian Pacific with headquarters at Winnipeg, Man., was announced in the *Railway Age* of



W. R. Des Brisay

September 23, page 591, was born in Minneapolis in 1888 and entered the service of the Canadian Pacific as a stenographer at St. John, N. B., in 1904. Shortly thereafter he was appointed ticket agent on the C. P. R. steamer "Empress of Ireland." He then served for a time in a similar capacity at Halifax, N. S., and in May, 1910, was promoted to cashier at Quebec. In February, 1913, he was advanced to traveling passenger agent with headquarters at St. John, and in July of the following year he was transferred in a similar capacity to Montreal. In January, 1916, he was appointed traveling passenger agent at New York and in October, 1916, was promoted to district passenger agent at St. John, which position he held at the time of his recent promotion.

Mechanical

N. B. Garrett has been appointed master mechanic of the Montgomery district of the Mobile & Ohio with jurisdiction extending from Montgomery, Ala., to Artesia, Miss., inclusive, with headquarters at Tuscaloosa, Ala.

T. C. Raycroft has been appointed master mechanic of the Seaboard Air Line, with headquarters at Hamlet, N. C., succeeding **G. W. Gilleland**, who has been transferred in a similar capacity to Howells, Ga., succeeding **J. J. Hamlin**, promoted.

Engineering, Maintenance of Way and Signaling

F. D. Lakin, division engineer of the Meadville division of the Erie with headquarters at Youngstown, Ohio, has been appointed acting regional engineer with the same headquarters, succeeding **H. Knight**.

H. A. Cassill, engineer maintenance of way of the Pere Marquette, with headquarters at Detroit, Mich., has been promoted to chief engineer with the same headquarters, succeeding **A. L. Grandy**, promoted.

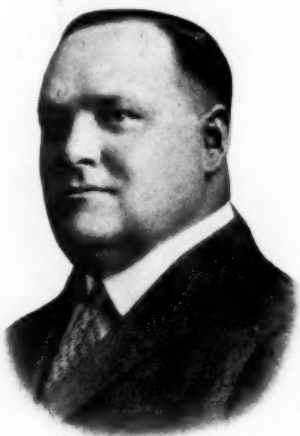
T. J. Bivens, assistant engineer of the Colorado division of the Union Pacific with headquarters at Denver, Colo., has been appointed acting division engineer of the Nebraska division with headquarters at Omaha, Neb., succeeding **S. H. Osborne**, promoted.

C. E. Dare, whose promotion to engineer maintenance of way of the Richmond, Fredericksburg & Potomac with headquarters at Alexandria, Va., was announced in a recent issue, was born at Rising Sun, Md., on September 2, 1870. Mr. Dare was graduated from Lafayette College in 1892, entering railroad service as a rodman in the construction department of the Pennsylvania Railroad in February, 1893, remaining in that department until 1901 when, as an assistant to the assistant engineer, he was transferred to the Philadelphia division with headquarters at Philadelphia. In 1903 he was promoted to chief draughtsman of the Philadelphia Terminal division, remaining in this position for a year when he was promoted to assistant supervisor with the same headquarters.

In 1906 he entered the service of the Richmond, Fredericksburg & Potomac as a supervisor with headquarters at Alexandria. In 1919 he was promoted to resident engineer with the same headquarters, remaining in this position until his recent promotion to engineer maintenance of way.

Special

Walter S. Thompson, whose appointment as publicity agent of the Grand Trunk was announced in the *Railway Age* of September 9, page 492, was born at Newcastle-on-Tyne, England, on October 22, 1886, and was educated at Rutherford College, Newcastle-on-Tyne. He began newspaper work as a reporter on the *St. James Gazette*, London, and later served as sub-editor on the *Evening Star*, the *Daily Express* and the *Observer*—all London newspapers. During the years 1909 and 1911 he was engaged in newspaper work in Australia and New Zealand and in 1912 became city editor of the *Daily Witness*, Montreal, and later of the *Daily Telegraph*, published in the same city. In 1913 he entered the service of the *Montreal Herald* as city editor and left that position in March, 1914, to become chief of the press bureau of the Grand Trunk, a position which he held until his recent appointment as publicity agent.



W. S. Thompson

Obituary

C. T. Ames, superintendent of the Des Moines Valley division of the Chicago, Rock Island & Pacific, with headquarters at Des Moines, Iowa, was killed in an accident on September 25.

J. R. Dickinson, assistant general solicitor of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, whose death at his home in Winnetka, Illinois, on September 17, was reported in the *Railway Age* of September 23, was born on July 17, 1866, at Pittsburgh, Pennsylvania. He entered railway service in September, 1890, as a court reporter and attorney for the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, and held this position until 1906, when he was promoted to assistant general solicitor, with the same headquarters, in which capacity he was employed up to the time of his death. Prior to his connection with the railway company, he was employed in the office of Edwin Walker, Illinois solicitor of the Chicago, Milwaukee & St. Paul.



J. R. Dickinson

R. B. Angus, who was one of the organizers of the Canadian Pacific Railway, died in Montreal on September 17. Mr. Angus was born at Bathgate, Linlithgowshire, Scotland, in 1831, and emigrated to Canada in 1857, where he entered the employ of the Bank of Montreal. In 1879 he entered the

railway field as a representative of several Canadians who had bought out the Dutch interests in the St. Paul, Minneapolis & Manitoba Railway (a forerunner of the Northern). He was a member of the original syndicate which was formed to construct the Canadian Pacific, and to his ability as a financier the success of the enterprise in its early stages was largely due. He remained a director of the company until the time of his death.

A. D. Lightner, formerly general executive agent of the St. Louis-San Francisco, died on August 18, at Birmingham, Ala. Mr. Lightner was born on February 2, 1866, at Vincennes, Iowa, and entered railway service as an agent and operator of the Atchison, Topeka & Santa Fe in Kansas, which position he held until 1890. In the latter year he became joint traveling freight agent of the Atchison, Topeka & Santa Fe and the St. Louis-San Francisco, with headquarters at Chanute, Kan., and Carthage, Mo., and remained in this capacity until 1896. Then until 1899, he was general agent of the St. Louis-San Francisco, with headquarters at Dallas, Tex., and from 1899 to 1904, he was general agent of the St. Louis-San Francisco and the Chicago & Eastern Illinois, with headquarters at St. Louis, Mo. He was then general agent of the St. Louis-San Francisco and general manager of the Birmingham Belt, with headquarters at Birmingham, Ala., for eight years. From 1912 to 1914, he was general agent of the St. Louis-San Francisco and the Gulf, Mobile & Northern, also vice-president of the New Orleans, Texas & Mexico and president of the New Orleans Terminal Company, with headquarters at New Orleans, La. He was then general manager and chief traffic officer of the New Orleans, Texas & Mexico, with headquarters at New Orleans, La., until 1916 following which he was in the operating and executive department of the St. Louis-San Francisco at Enid and Tulsa, Okla. From 1917 to 1920, he was engaged in war work as superintendent of terminals, railway construction and operation with the Willys-Overland Company at Toledo, Ohio. From 1920 to 1922, he was general agent of the Southeastern Express Company at Birmingham, Ala.

Burns D. Caldwell, president of Wells, Fargo & Company since October, 1911, and chairman of the board of the American Railway Express Company since July 1, 1918, died on the night of September

24 in a Pullman state-room just before his train reached Burlington, Vt., while he was on his way home to Orange, N. J., from a fishing trip in Canada. Mr. Caldwell was born at Placerville, Calif., on April 27, 1858. He was graduated from high school at Chambersburg, Pa., in 1873 at the age of 15 and in the same year began railway work as a clerk in the auditor's office of the Vandalia at Terre Haute, Ind. In 1881 he was promoted to chief clerk in the general passenger and ticket

department of the Vandalia at St. Louis, Mo., and remained in that position for about four years. In 1885 he was appointed chief clerk in the general passenger and ticket department of the Missouri Pacific in the same city and, in 1888, was appointed assistant general passenger agent of this company. In June, 1892, he was appointed chairman of the Western Passenger Association, with headquarters at Chicago. This position he held until July, 1899, when he went to the Delaware, Lackawanna & Western as traffic manager and later he became vice-president of the same road. In 1911 he resigned to become president of Wells Fargo & Company. Mr. Caldwell has been a director of a number of railroad companies and is a member of the Sub-Committee on Transportation of the International Committee of the Y. M. C. A.



B. D. Caldwell